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Original Articles

ACUTE DILATATION OF THE STOMACH.

WITH REPORT OF TWO CASES, ONE OF WHICH COMPLICATED PNEUMONIA AND ENDED IN RECOVERY.

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CHICAGO.

Acute dilatation of the stomach is a rare condition. In 1902 Thomson[1] collected less than fifty cases. A few have been reported since. It is a grave condition, truly appalling, as its high mortality well indicates. Its recognition is not always easy, yet important, as it is probable that the earlier treatment is begun the better is the outlook. I report these two cases of acute dilatation of the stomach, therefore, because the rarity, gravity and importance of recognition of the disease make it desirable that every observed case should be put on record. One of these cases recovered—the first recorded recovery, I believe, where the disease has been a complication of pneumonia or pleurisy; in the other patient an autopsy was not to be obtained. I can, therefore, make no contribution to the morbid anatomy of the disease, knowledge concerning which is extremely scanty, but very desirable as helping one to a better insight into the as yet little understood pathogenesis and the true etiology.

I have thought it wise to add to the report of these cases a brief summary of the main points in the clinical history of this condition. One desiring fuller information can find it in the monograph of Campbell Thomson.[1]

CASE 1.—E. S., male, aged 36, entered my service at the Presbyterian Hospital, Feb. 13, 1904.

History.—His family history was good, with the exception of a doubtful tuberculosis in an older brother. He had had measles as a child, smallpox in 1881 and a fever, probably typhoid, in 1886. He was a moderate user of tobacco. Up to one year ago he had used alcohol quite freely. He had been bothered with his stomach only after spells of excessive drinking. For the past year he had not been drinking and had been in excellent health. February 10 he was suddenly seized with a sharp pain in the right side of the chest. This was followed by chilliness, headache, cough, diarrhea, vomiting and fever.

Examination.—On examination he was found to be a well-nourished man of moderate stature, with physical signs of consolidation, evidently pneumonic, of the upper lobe of the right lung and the upper portion of the lower lobe of the same side. Dullness, bronchial breathing, increased vocal resonance and fremitus and a few fine crackling râles were plainly made out. The patient was somewhat cyanotic and breathed with evident pain. There was a labial herpes. The tongue was dry. He was clear mentally. The physical examination as to the special senses, nervous system, heart, liver, rectum, genitalia and extremities was negative. The skin showed pitting from variola. In the record of the examination of the abdomen it is recorded that "the lower border of the stomach is apparently above the umbilicus." "The spleen can be distinc y felt on deep inspiration."

Blood.—The blood on admission showed 5,280,000 erythrocytes, 33,100 leucocytes, nearly all polymorphonuclear, and hemoglobin 98 per cent.

Urine.—The single specimen of urine obtained on admission, specific gravity 1022, showed a heavy trace of albumin and contained numerous granular and hyaline casts. A twenty-four hour specimen, 1,000 c.c., specific gravity 1021, likewise contained a considerable amount of albumin, with many granular and hyaline casts.

Sputum.—In the viscid, rusty sputum, diplococci, many with capsules, were very abundant in stained smear preparations.

Course of Disease.—The illness for the first six days of his stay in the hospital pursued the course of a severe migrating pneumonia, there being involved in succession the right upper, right lower and left lower lobes. The temperature varied between 101 and 104. Most of the time the pulse was between 115 and 130. The respiration rose gradually from 25 to 60 a minute. The mental condition became one of extreme restlessness. The bowel movements changed from a yellowish or brownish semi-solid to a liquid greenish character on February 17. During the first five days after admission he did not vomit.

On February 15 I showed the patient in clinic and a careful examination was made, not only of the chest, but of the abdomen as well, and nothing out of the way was noted as to the stomach by external examination. Treatment consisted of five grains of ammonium carbonate every four hours. On February 17 one-half ounce of whisky was ordered to be given every four hours. One dose of calomel (gr. 1) and soda was given February 17, when the stools had become so loose and frequent.

On the morning of February 18, the ninth day of the disease, I regarded him as a very sick pneumonic patient, but yet one who had a fair chance of passing through the crisis which could be looked for soon. The right upper lobe was already beginning to show signs of resolution.

That afternoon at 5 o'clock he vomited—I copy the record of the nurse—yellow fluid. At 5:30, half an hour later, he vomited dark brown fluid. At 6:30 p. m. he vomited about a pint of black fluid. At 7:15 p. m. he vomited a cupful of black fluid. He vomited repeatedly during that night, each time ejecting the black fluid and on several occasions as much as a pint. He became restless, extremely thirsty and very weak. Water was given in small amounts, digitalin and strychnin were administered hypodermically, and normal salt solution was given by rectum.

At 8:30 a. m., February 19, three pints of salt solution were injected under the skin. When I saw the patient an hour or two later he was quiet, had a fairly good pulse of 120, a rectal temperature of 102°, the breathing had gone down from 60 to 50, he had not vomited for two hours, and I hoped this was the beginning of the critical improvement.

In the evening, however, when I again saw him, his condition was decidedly more alarming. While temperature (101°) and respiration (44) were better, his pulse was of poorer quality, his countenance was sunken and haggard, he was semi-delirious and seemed profoundly shocked and toxic. He had again vomited the dark grumous material and his abdomen had become markedly distended.

1. Campbell Thomson: "Acute Dilatation of the Stomach," New York, 1902. Also the review of the subject by Neck: "Die Akute Magenerweiterung (Sammel-referat)." Centralbl. f. d. Grenz. d. med. u. Chir., vol. viii, No. 14 et seq. Extensive bibliographies are to be found in each of these articles.

An examination of the chest revealed the pneumonic areas clearing. The heart, while weak, was not dilated. The abdomen was greatly distended, very slightly tender on palpation, resonant, except in the flanks; a faint peristaltic wave occasionally passed from left to right. On tapping to test for fluctuation I was surprised to get it with a distinct slap of the wave against the hand, and there was a splashing sound that was plainly heard with the ear near to the body when the patient was shaken, and that sounded, when the stethoscope was placed over the abdomen, exactly like the echoing succussion of hydro-pneumothorax. The fluid shifted readily, as shown by change of position of the patient.

Treatment.—Feeling sure we were dealing with an acute gastric dilatation, I turned the patient on his side, not daring to have him sit up in his weak condition, passed the stomach tube and removed about a quart of dark grumous liquid. The stomach was washed until the water returned clear. The patient seemed much relieved and the vomiting ceased. The stomach as mapped out at this time extended to within one inch of the symphysis pubis; the lesser curvature was two inches above the umbilicus. All food was stopped by the mouth and nutrient enemata were given. Gastric lavage was practiced three times in every twenty-four hours; strychnin and digitalin were given hypodermically; normal salt solution was given by rectum and hypodermically. A firm abdominal binder, with a large pad of cotton, was applied in such a way as to press the stomach upward and away from the lower abdomen. The patient did not vomit after the first lavage; the material washed from the stomach gradually became less in amount and lost its dark greenish look, but for several days the general condition resembled one of profound toxemia with extreme prostration.

He was at times delirious and the evacuations were involuntary. It became impossible on the third day to feed him by the bowel, because of failure to retain the enemata, and rice water in small amounts (℥ss-iii) was given cautiously by the mouth. This was retained. Albumin water and milk were later given in small amounts. The record for February 22 is as follows: "The lungs show advancing resolution. Stomach tube passed and about 600 c.c. of bright green fluid obtained. Lavage. Distended with air, the lesser curvature is three fingers above the umbilicus; the greater, one hand's breadth below. Tongue heavily coated; eyes bleary and sunken; mind wandering; pulse regular, fairly full; heart tones strong. Leg, of which patient complains, negative; no thrombophlebitis to be made out."

At this time small, loose, greenish stools were passed two to five times a day. The record of February 25 shows: "The mind clearer; tongue less dry. Right lower lobe nearly clear; right upper seems slow in clearing, is still quite dull; respiration harsh; many coarse, moist râles. The same coarse râles are heard over the left lower lobe, though there is little dullness here. The pulse is quick to-day. Sputa yellow, viscid, slightly offensive, an occasional rusty streak. Stomach outlines as on February 22."

February 28: "On percussion stomach seems to reach one-half inch below umbilicus. Lesser curvature higher than before."

March 8: "Urine 2,400 c.c., specific gravity 1010, no albumin, no casts."

Result.—More and more food was gradually allowed, and the slow but steady improvement was uninterrupted. When the patient left the hospital, March 16, his stomach was about normal in size, but still showed a distinct prolapse. When heard from a few months later from his home in Maryland he reported himself as feeling entirely well.

Remarks.—An analysis of the stomach contents obtained February 19 showed them to be thin, of dark greenish color and containing many fine shreds. There was a faint acid reaction to litmus. Congo-red showed no change. Total acidity was 18; no free H. Cl. No lactic acid. Bile present. No mucus, pus, erythrocytes or leucocytes. Some starch granules; considerable fat. Many short bacilli. On February 22, one and one-half hours after taking milk, an analysis showed dark greenish fluid containing a few curds. Litmus, slightly acid. Congo-red, no change. Töpfers reagent, no change. Total acidity, 20. Bile present. No blood or pus.

A second case of acute dilatation of the stomach was seen several times with a surgical colleague, in whose practice it occurred and who has kindly furnished me notes of the case.

CASE 2.—A woman, aged 55, weighing about 130 pounds, mother of several children, had had for nine years, with varying frequency and severity, attacks of colic, evidently due to gallstones. She had never been jaundiced.

Operation.—Operation was performed Oct. 20, 1904; the gall-bladder with 142 stones was removed. A rubber drainage tube packed with gauze was introduced into the wound. The common duct was not touched, further than to assure the operator of the non-existence of common-duct stones. At the same sitting a diastasis of the abdominal recti muscles was relieved by freshening the edges of the muscles and uniting them by sutures. It was noted by the operator that the stomach was in its usual position and was not larger than normal, and the region of the pylorus and duodenum was examined for the presence of adhesions, but none was found. The patient left the operating table in fairly good condition. Nine ounces of ether were used for anesthesia, which lasted one hour and thirty-five minutes. Nitrous oxid gas was used at the very beginning.

Postoperative History.—For about twelve hours after the operation the patient, who had promptly regained consciousness, complained of pain in the abdomen and vomited often, each time bringing up a small amount of light greenish liquid. The vomiting then ceased for twelve hours. Then, with complaint of more pain with increase in pulse rate to 158 and evidence of great prostration, vomiting began again, the vomitus now being a dark-brown liquid. The patient's eyes were sunken, the tongue dry, voice feeble and husky. There was *fetor ex ore.* The pulse was small and feeble, the temperature ranging from 99 to 101°. The abdomen was distended; tender only near the wounds. The stomach outlines were clearly made out, showing the greater curvature half way between the umbilicus and symphysis pubis. A succussion sound was plainly heard and the splash of the fluid could be felt below the umbilicus.

Under gastric lavage, rectal feeding, hypodermoclysis and stimulants, there was marked improvement, lasting three days. The tube and nearly all the gauze had been removed, but on October 29 she again became very restless, was nauseated, complained of increased pain and vomited a quart of thick, blackish, offensive material. The pulse rose to 138; the prostration became extreme. In spite of lavage, stimulants, use of salt solution by rectum and hypodermically, she gradually failed and died November 3, fourteen days after the operation. No autopsy was permitted.

Remarks.—The stomach contents, analyzed several days before operation and after the occurrence of the acute dilatation, never contained any free HCl except once, when the acid was being given by the mouth. After a test breakfast, October 18, there was a total acidity of 8. A full meal used as a test for motor insufficiency showed, October 17 and October 20, no retention. After seven hours but 5 c.c. of contents could be obtained. The stomach contents after dilatation occurred showed (e. g., test of October 30) a dark, greenish-black fluid of foul odor, specific gravity 1020. The reaction was alkaline. No blood or bile could be found by chemical tests. A few red cells and leucocytes with much mucus and some epithelial cells were found on microscopic examination. No Oppler-Boas bacilli were found, but there were myriads of other microorganisms of various forms.

In this case the possibility of acute obstruction at the pylorus or the duodenum was thought of, but the removal of the tube and packing gave no relief, and there was a lack of peristalsis such as one would expect with such an obstructive dilatation. It is to be noted that ether and not chloroform was the anesthetic in this instance. In most respects this case resembles the other recorded postoperative cases. The pain, prostration, vomiting of large amounts of dark fluid, the great size of the stomach, the temporary improvement for three days and death in the second week are all as in most other reports of the same accident.

SYMPTOMS.

Comparing these two cases with others that have been reported, they are found as regards *symptoms* to be typical in most respects. The onset of acute dilatation is sudden. There may be complaint of pain or discomfort in the abdomen. This pain may be severe. The vomiting is quite characteristic, brown, grayish, greenish or black, large in amount, and may be offensive. It seems almost to run out of the patient's mouth rather than to be forcibly ejected. Henry Morris says that it comes up in "large gulps without straining." The urine is scanty; the bowels loose or constipated. The temperature is often subnormal, the skin cold and clammy, the pulse small and rapid, thirst is extreme; in short, there is the picture of collapse.

The abdomen, especially the lower half, is distended, though it may be flat if the stomach be well emptied for the time being through free vomiting. Peristalsis, even slight as in my first case, has been rarely reported, an argument advanced by some to disprove the theory of pyloric or duodenal obstruction as a causative factor. The percussion note is drum-like over the gas-containing part of the viscus and flat over the fluid. Fluctuation and the succussion sound are clearly made out, the stomach tube withdraws a large amount, sometimes several pints, of brownish, greenish or blackish, rather thin or gruelly fluid. This fluid generally contains bile, perhaps pancreatic juice and some altered blood. Free HCl, as a rule, is lacking; lactic acid has been found several times. The odor is often offensive, almost never feculent. The gas that escapes through the tube or by belching is often abundant and may be of foul odor. H_2S has been found in it in one or two instances. The stomach, with or without the aid of distension by air injected through the tube, can be outlined as greatly enlarged, extending "even to the symphysis" or "filling the entire abdomen from diaphragm to symphysis." The abdomen flattens in contour as the fluid and gas are withdrawn by the tube.

DIAGNOSIS.

Diagnosis is not as easy as one might think. Peritonitis, either general or local, intestinal obstruction, pancreatic cyst, uremia, postanesthetic vomiting, acute pancreatitis are all to be considered. Of especial value in diagnosis is the succussion sound, and the examination by the stomach tube revealing the characteristic fluid and the enormous size of the stomach. Diagnosis in one case was made when an exploratory puncture through the abdominal wall for suspected pus, the result of the supposed peritonitis, revealed the greenish stomach contents. The writer in this case explains the failure to recognize the existence of dilatation by the simple signs of fluctuation and succussion as due to the fact that, through fear of breaking up possibly existing recent adhesions, he did not dare shake the patient, etc. This sounds much like an *ex post facto* reasoning. Surely a palpation and percussion of the abdomen sufficient to test for fluctuation, or a shaking of the patient, or, better still, of the bed, to bring out succussion is a far safer and a more rational procedure than an exploratory puncture for suspected appendicular abscess or localized peritoneal exudate from other causes.

PROGNOSIS.

An extremely small number of the recognized cases have recovered. I believe my case is the first reported case of recovery in which acute dilatation has complicated pneumonia or pleurisy.

Thomson refers to seven cases of recovery. I am acquainted with recovery in the practice of a surgical colleague in a case following a gall-bladder operation. As Thomson says, types of more moderate severity probably occur and end in recovery so that the prognosis, if these cases were more accurately recognized, would not be so grave as it is generally supposed to be. Some of the instances of late nausea and vomiting after anesthetics may be due to milder forms of acute dilatation. Death when it occurs may be within the first forty-eight hours or it may be delayed for more than a week. In general the disease runs its fatal course within a week. Relapse may occur, and intermissions of several hours with cessation of vomiting and improvement in symptoms have been several times noted.

TREATMENT.

I feel convinced that treatment in my case saved the life of the patient, even though it was begun late, as the existence of dilatation was not recognized until it had lasted probably twenty-four hours.

Treatment should consist in frequent gastric lavage, saline solution by the bowel and under the skin, nutrient enemata, strychnin and other stimulants hypodermically. Box and Wallace advise the use of atropin. This has been found of service in certain cases of ileus, and the resemblance of acute gastric dilatation to dynamic ileus might suggest similar treatment. Change of posture to the right or to the abdominal decubitus should be tried to relieve the possible drag of the mesenteric vessels on the duodenum or the pressure of the overloaded stomach on the same portion of the bowel. I tried a snug abdominal supporter with a large firm pad of cotton, binding it on in such a way as to push the abdominal wall and, with it, the stomach upward in the same manner that the binder is used in cases of enteroptosis. How much this accomplished it is hard to say, but it apparently helped to keep the displaced organ more nearly in its proper place. It has since occurred to me that possibly the stomach might be induced to contract by the application of ice to the abdominal wall or of hot water or even hot air put into the stomach through the tube in the same way that the inert uterus after confinement can be induced to contract through these means. It would seem to be a means of treatment worth trying. That the stomach wall has not entirely lost its elasticity and contractility has been shown by its prompt shrinking on the escape of gas when pricked postmortem, as well as by the same contraction in the wall when at operation in a few cases the stomach has been opened and emptied of its gas and fluid. Surgery—gastrojejunostomy—is advocated by Mayo Robson in intractable cases, when on opening the abdomen it is seen that there is no possibility of correcting the displacement of the viscus and in this way favoring a cure.

ETIOLOGY.

Certain statistical facts can be stated concerning the etiology of this condition. It is commonest between the ages of 20 and 30. A small number have followed trauma. A surgical operation has preceded about one-quarter to one-third of the cases, and a rather strikingly large percentage of these operations has been on the gall bladder or bile ducts. The anesthetic has nearly always been chloroform. Neck saw dilatation follow a small dose of veronal. In some instances overloading the stomach is assigned as the cause—dilatation *ab ingestis*. For instance, Hoffmann[2] reports the case

2. E. Hoffmann: Münch. med. Wochft., vol. II, No. 45, Nov. 8, 1904.

of a male, aged 18, who was a hearty eater and who bolted his food. After a large meal, including several good-sized pickles, pain and vomiting occurred; on the sixth day ileus with peritonitis and encapsulated exudate was diagnosed. Laparotomy was performed. There was no peritonitis, the stomach was found enormously dilated and, on being opened, six liters of fluid, with pickles, escaped. A. Fraenkel[3] reports the case of his own child of 6 who, after eating freely of peas, suffered from a typical acute dilatation, recovering only after six weeks of serious illness.

In a number of cases, some other lesion than the dilatation has been found and is regarded as the cause or at least as a contributing factor. Of Thomson's 44 cases, one was associated with empyema, three with pleurisy and pneumonia and one each with typhoid, scarlet fever and an obscure fever. Brown[4] saw a case in a choreic girl; A. Fraenkel[3] reports a case in an anemic girl with hemorrhage from the stomach. No ulcer, which was suspected, was found, but a long, vertical, dilated stomach. Fraenkel things anemia and atony plus food and drink may account for the dilatation.

While, therefore, trauma, surgical operation, overloading of the stomach, preceding or accompanying diseased conditions, are assigned as causes in most cases, in others no cause whatever is recognized as operating and the dilatation might be regarded as idiopathic, i. e., the cause not discovered.

GENERAL REMARKS.

It is not my purpose to speculate as to the exact mode of production of acute dilatation of the stomach nor to review in detail the various theories that have been advanced to explain it. While a number of autopsies have been performed—in most of Thomson's 44 cases postmortem examinations were made—many of them are very incomplete and there is no constant finding save the greatly distended stomach with its contents of gas and fluid and commonly submucous hemorrhages and erosions. In several instances the dilatation has included not only the stomach, but also that part of the duodenum above the crossing of the superior mesenteric vessels. Only a few microscopic examinations of the wall of the stomach have been made; the nerves, the vagi and splanchnic, have been practically overlooked; bacteriologic and chemical examinations of blood and stomach contents are scanty; only occasionally is the condition of the pancreas noted with care, so that one sees that there is much light that might be thrown on the subject by carefully conducted complete autopsies.

More careful observations have been made as to gross conditions that might cause obstruction at the pylorus or in the duodenum. The fact that several cases have followed operations on the bile tract, such a close neighbor of the duodenum, makes one think of the possibility of pressure on this part of the intestine by drainage tube or exudate as a possible cause, or of the extension of inflammation to the duodenal or gastric wall. Albrecht[5] and others have drawn attention to the pull and pressure of the superior mesenteric vessels on the underlying duodenum, particularly when the small intestines were low in the pelvis and by their dragging weight pulled these vessels taut. Several observers have found, by necropsies and by experiment, evidence sufficient to make them adherents of this theory. Still others believe that the overloaded stomach itself presses on the duodenum and so really obstructs its own outlet, and the enlarged, overloaded viscus pushes the small intestines downward, increasing the pull on the superior mesenteric vessels and thus still further adding to the obstructive force that is blocking its outlet. We thus have an illustration of the vicious circle of causes so frequently seen in conditions of disease.

Kelling[6] has advanced an additional theory and he is supported in this by Braun[7] and Seidel. Kelling bases his belief largely on experimental work on dogs. A simultaneous closure of the duodenum and cardia would result in an overdistension of the stomach and in the accumulation of fluid and gas. A valve-like fold in the lower esophagus opens by active contractions of the gastric musculature. If for any reason, as through inflammation of the wall of the stomach or defective innervation through abnormally acting vagi or other nerves these muscles became incompetent, and at the same time if a kinking of the duodenum were to occur—and Kelling finds that it may—the condition would be ripe for an overdistension and hypersecretion, or more properly a hypertransudation from the wall of the stomach, i. e., the contents could escape through neither pylorus nor cardia. If the kink in the duodenum is below the opening of the common bile duct, bile and pancreatic juice will, of course, be constituents of the gastric fluid. Kussmaul[8] long ago called attention to these duodenal kinks.

Some adhere to the theory of a sudden toxic paralysis—e. g., through the poison of an infection, local or general, or perhaps chloroform—of the wall of the stomach permitting of abnormal hypersecretion, the accumulation of gas arising from fermentation or expired, as it were, from the vessels in the wall of the stomach (?), the paralysis permitting the yielding of the wall of the viscus and preventing peristalsis vigorous enough to cause the emptying of the organ *per vias naturales.*

To all of these theories there is some objection that can be raised. Either the theories are wrong or acute dilatation of the stomach may arise from more than one cause and thus permit more than one explanation.

It is, perhaps, idle to speculate, yet it seems as though some involvement of the nervous or muscular apparatus of the stomach wall in inflammatory or toxic change must be present to account for the enormous amount of transudate and gas, the great size of the stomach whose walls seem paretic, and for the alarming and too often fatal condition resembling profound toxemia. Mechanically obstructive causes may be operative, as the numerous observations go to show, but that they are primary or that they are the sole causes is not proved.

As I have said, more careful histologic, chemical and bacteriologic examinations are necessary before the pathogenesis of this condition shall be made clear, and more attention should be given by the clinician to noting the condition of the stomach as regards location and size before and during operations and at the beginning of infectious diseases. A previously existing gastroptosis might predispose to acute dilatation. So too, the condition of the stools during these attacks might show whether or not the same peculiar blackish material found in the stomach is present in the lower bowel, and in this way throw some light on the possible presence of duodenal obstruction.

3. A. Fraenkel: Deut. med. Wochft., 1894, No. 8, p. 155.
4. Brown: Lancet, April 19, 1890.
5. Albrecht: Virchow's Archiv., vol. civi.
6. Kelling: "Verhandl. d. Deutsch. Gesellsch. f .Chir.," 1901.
7. Braun: Deutsch. med Wochft., 1904, p. 1553.
8. Kussmaul: "Die Peristaltische Unruhe des Magens." Volkmann's Samml. klin. Vortr., 1880, No. 181.

HEAD INJURIES ACCOMPANIED BY INTRACRANIAL HEMORRHAGE.*

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As house surgeon at the Emergency Hospital, it has been my privilege to see and to attend a large number of head injuries, of which some have been very serious. The attitude of some of our best surgeons regarding early operative interference in these cases has prompted me to write this article, the purpose of which is to bring out a few points in the treatment of head injuries accompanied by intracranial hemorrhage. The point which I wish to emphasize is the necessity of prompt surgical interference under certain conditions and the probable result when the surgeon waits for the development of focal symptoms. As an illustration, I wish to cite three cases which were recently treated at the Emergency Hospital. For these cases I am indebted to Drs. Bading and Reineking attending surgeons to the hospital.

CASE 1.—On Feb. 22, 1905, about 1 p. m., C. A. B., male, aged 27, was brought to the hospital by the police. He was profoundly intoxicated when admitted and it was thought that he had fallen down a flight of stairs, but no definite history was obtained, as the man was a stranger and without friends.

Examination.—This showed a superficial laceration of the scalp about one inch long over the left parietal eminence, a small laceration over the right eye and a slight dilatation of the right pupil, which was uneven and reacted slowly to light. The man's pulse was 62, temperature 97.4 by rectum, respiration 24. He vomited several times soon after entrance.

Hospital Record.—The patient was put to bed for observation. For several hours he was very quiet and the effects of the liquor did not seem to pass away. About 2 a. m. I was called by the nurse, who had noticed a twitching of the muscles of the left hand and forearm, followed by a rigidity of the extremity. Soon afterward the lower extremity on the left side became similarly affected. Later the right side became involved. There were frequent muscular twitchings, followed by a rigidity of the extremities. At 6 a. m. I was again called. The same conditions were present, but were more noticeable. The pulse at this time was 124, temperature 101.6 in the rectum, respirations 36. It was thought that this might be a case of skull fracture with cortical laceration, and an expectant line of treatment was advised. There was a gradual rise in the pulse, temperature and respiration, and during the second night the pulse was as high as 180, temperature 105 in the rectum, respirations 40. On the following morning the man was still completely comatose. He grew gradually worse and died at 3 p. m. February 24, fifty hours after admission, the temperature going above 107, while the pulse could not be counted.

Autopsy.—On the following day a postmortem was held and the findings were as follows: There was a fissured fracture of the skull on the right side, extending from the squamous portion of the temporal bone to the occipital protuberance. There was a rupture of the middle meningeal artery with an immense subdural clot practically covering the right hemisphere.

CASE 2.—C. B., male, aged 32, jumped from a moving street car on the morning of July 14, 1905, and was brought to the hospital at 7:50 a. m.

Examination.—There was a slight laceration over the olecranon process on the right side, and it was to have this wound dressed that he was brought to the hospital. He complained of severe pain in the head and was somewhat dazed. Examination of the head showed a contusion of the scalp over the right parietal eminence, but no abrasion.

Hospital Record.—He was put to bed and his condition rapidly grew worse. He was very restless, complained of pain in the head, vomited, and his pulse became full and slow. Within six hours he became very restless and delirious; pulse 44, temperature 98.8 by rectum, pupils equal and reacting slowly to light. There was twitching of the muscles of the right upper extremity, followed by rigidity. Twelve hours after admission his pulse was 68, temperature 100.4 in the rectum, respirations 24. There were frequent twitchings of the muscles of the extremities of both sides, followed by rigidity of the same parts, but at no time was there paralysis. During the night he steadily grew worse, and at 8 a. m. on the following morning his pulse was 142, temperature 103.2 by rectum, respirations 47. The respirations were snoring in character and he was becoming cyanotic. His pupils were equal, but sluggish. He was in deep coma, but there was no paralysis, nor were focal symptoms present. It was thought that this was a case of intracranial hemorrhage and that operative interference was indicated. Accordingly the patient was prepared for operation.

Operation and Result.—The question arose as to where the skull should be opened. It was decided to open on the right side, since there was a contusion of the scalp on that side, and if hemorrhage was not present an opening was to be made on the opposite side. An incision was made over the motor area on the right side, and when the skull was exposed a fracture was found. It was not depressed and was about four inches in length, following closely the direction of the squamous suture. A trephine opening was made and an extradural clot was exposed. The opening was enlarged and the bleeding vessel found. It proved to be a posterior branch of the middle meningeal and a ligature was applied. The clot, which was very large, extending over the greater portion of the right hemisphere, was removed. As soon as pressure was relieved the breathing became better and the patient improved rapidly in every way. Even before he left the table the change was noticeable. Within four hours after his removal from the operating room he answered questions and apparently knew what was going on about him, although he had been profoundly unconscious for the preceding eighteen hours. Twenty-four hours after the operation his pulse was 120, temperature 101, respirations 40, and he was perfectly conscious. He made an uneventful recovery.

CASE 3.—On Aug. 28, 1905, at 8:30 a. m., B. H., an Austrian, aged 47, was brought to the hospital from the county jail.

History.—He was able to talk a little, but not rationally, and no definite history could be obtained. It was learned that on the afternoon of August 27 he had been found lying near the street-car track outside of the city limits. The sheriff had been notified and the man was brought to the county jail, where he remained over night.

Examination.—He had the appearance of having been drinking heavily. Examination showed that the left upper extremity was rigid and the forearm flexed to a right angle. The patient did not know whether or not he had been injured, and there was no evidence of any traumatism except two small areas of ecchymosis over the left thigh. His pulse was 48, temperature 99 per rectum, pupils equal.

Hospital Record.—From the above history and symptoms present a positive diagnosis was not made at this time, although the case appeared to be one of intracranial hemorrhage, probably the result of an injury. He was put to bed for observation. On the following day his condition was not so good. The right pupil was slightly dilated, the left upper extremity still remained spastic, and there were frequent twitchings of the muscles which were not present on the preceding day. The lower extremity on the left side had also become rigid. He refused all nourishment, his mental condition was not so good, and he passed both urine and feces involuntarily. At 4 p. m., August 29, his pulse had risen to 80, temperature 100.6 by rectum, respirations 30.

On the second day following his admission his condition had become much worse. His pulse was 104, temperature 102 by rectum, respirations 36. Both the upper and lower extremity on the right side had become rigid, with twitchings of the muscles from time to time. The left side remained in the same condition, but more marked. The man was completely comatose, his respirations stertorous and he was cyanotic.

* Read at the meeting of the Milwaukee County Medical Society, 1906.

Operation.—At this time it was decided that the patient's condition warranted opening the skull, and accordingly he was prepared for the operation. The entire head was shaved, but no evidence of any injury whatever could be found on the scalp.

At 4 p. m. that afternoon he was anesthetized; he required but little anesthetic. An incision was made in the scalp over the motor area on the right side. No fracture was found, and an opening was made in the skull with a trephine. The dura was bulging, but did not pulsate, and when incised a large amount of dark fluid blood escaped. The quantity is not known, but there remained a large cavity, extending almost over the entire hemisphere, and at the opening of the brain was separated about one inch from the skull. Such a quantity of blood would cause great intracranial pressure. There was no active bleeding, nor was any clot present. The cavity was irrigated with salt solution and the wound closed with drainage.

Result.—There was a marked improvement in the character of the respirations immediately following the operation and the cyanosis disappeared. During the night the pulse was 120, temperature 103 in the rectum, respirations 40, and the patient restless. On the following day there was a decrease in the pulse, temperature and respirations, and his mental condition was much improved. He talked freely, but did not seem entirely rational for four days after the operation. He could give no history of any injury, but thought that he had fallen, striking his head. At times he complained of severe pain in the head on the right side and did not want to be disturbed. He remained in the hospital about two weeks and was then transferred to another institution. Unfortunately, an abscess developed within the skull anterior to the opening and prolonged his stay in the hospital, but he made a complete recovery. While it is to be regretted that an infection occurred in this case, yet it is a good illustration of the fact that serious results do not necessarily follow an intracranial infection.

From a study of these three cases which are similar, the one patient treated expectantly, the other two operated on, we can see that the diagnosis of intracranial hemorrhage does not depend on the development of local symptoms. In none of these cases did a hemiplegia occur. Local symptoms are due to a local lesion and extensive compression of the brain does not necessarily produce local symptoms. Park states that when intracranial pressure has reached a certain point epileptiform convulsions result, varying in intensity, affecting all the limbs and terminating perhaps with rigidity, and that such a condition is an expression of high pressure within the cranium. That paralysis does not necessarily follow rupture of the middle meningeal artery is well illustrated by these cases. An article on the diagnosis of hemorrhage from the middle meningeal artery by Dr. C. H. Lemon has appeared in a recent issue of the *Wisconsin Medical Journal*. He dwells on the importance of an early diagnosis and active interference and emphasizes particularly the character of the pulse and respirations. A slow pulse which later becomes rapid and a marked increase in the respirations which become stertorous are the two most important symptoms. In a case with a history of injury to the head and in which the patient is unconscious, if these two symptoms are present, we know that the intracranial pressure is increased. The most probable cause of this increased pressure would be hemorrhage or a depressed fracture. The latter is easily excluded. Usually the patient becomes cyanotic and there is frequently a dilatation of one pupil, but this sign is not reliable. The period of consciousness between the accident and the peristent coma is recognized as a very important symptom of intracranial hemorrhage. In only one of these cases, however, was this symptom distinct.

One point that deserves emphasis is that in all of these cases both sides of the body were similarly involved. It is true that the side opposite the lesion first showed symptoms of irritation, but the same condition was soon present on the other side. In Case 3, no sign of injury could be detected after shaving the entire head, and this case shows clearly that very serious damage may occur within the skull with absolutely no evidence of external injury. For several days this man's friends could not be located, as he had given another name on admission to the hospital, and when they were found they knew nothing regarding the case except that he had been missing for several days. In this respect, the case is unusual, as in almost every case some history of the patient can be obtained. In this case the diagnosis was based chiefly on two symptoms, a slow pulse and the spastic condition of the arm. The one indicative of pressure, the other of irritation.

As regards treatment the question arises, when should an operation be advised? In looking over the textbooks on general surgery I find that they nearly all state that operative interference should not be undertaken until focal symptoms develop. This, I believe, is wrong. That focal symptoms do not always develop is clearly shown by these three cases. If the hemorrhage is small and is confined to the motor area local symptoms will probably develop, but if the hemorrhage is large these symptoms may be absent. One point which I wish to emphasize is that the absence of focal symptoms does not mean that hemorrhage is not present. It is largely due to the absence of focal symptoms, I think, that an early positive diagnosis is not made in such cases. I believe that an operation is indicated when there is a history of injury to the head followed by loss of consciousness, if the patient has a persistent slow pulse, that is one of fifty or under, later becoming rapid, and is gradually growing worse. Certainly there is less danger to such a patient in trephining the skull than in treating him expectantly. This statement is borne out by statistics. Weisman collected 257 cases. Of these 147 were treated expectantly, with 131 deaths, while of 110 cases in which operation was performed only 30 died. Von Bergman cites 143 cases treated expectantly, in only 12 of which the patients recovered, a mortality of over 90 per cent. With these figures before them, I can not understand why many of our best surgeons hesitate about operating in such cases. Certainly these men would not hesitate about doing an appendicectomy, but would urge it if the case were an acute one. They would not hesitate regarding an exploratory laparotomy for diagnostic purposes; why, then, should they delay trephining the skull for the same purpose if the patient is in danger? Under aseptic conditions, the chances of infection following trephining are certainly no greater than following a laparotomy, and yet the surgeon who would urge this operation hesitates when the question arises of opening the skull. No doubt a number of these patients will die whether operated on or not, but I believe that many more could be saved by prompt surgical means.

Park cites a case in which Parker, in 1877, opened the skull for hemorrhage and, not finding it, opened on the opposite side, removing a large clot, and saw his patient restored to health. To use his own words, "this was considered a very bold procedure," but if we had more men of like mind to-day many patients could be saved who otherwise would die of neglect.

THE NEURONS.*

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I. INTRODUCTION.

I have been invited to speak on the subject of "The Neurons" and to outline to you the present state of knowledge concerning them. No topic has led to more animated discussion, perhaps, during the past ten years. Indeed, the word "neuron," which sprang so immediately into vogue after its introduction by Waldeyer in 1891, appears to have excited, by virtue of its rapid and widespread popularity, a feeling of bitter hostility, of unrelenting antagonism in certain circles. Hailed at its advent as the simplifier and revolutionist of our knowledge of the nervous system, and enthusiastically adopted by teachers of anatomy, physiology and pathology, the neuron doctrine has in subsequent years been subjected to the fiercest of assaults; not only has the truth of its tenets been questioned; its adversaries even go so far as to designate it as "a real danger to science."

The neurohistologic world appears to be divided into two camps, that of the neuronists and that of the antineuronists. The controversy, curiously enough, has been a rather one-sided affair, though by no means wholly so. The so-called "neuronists" have spoken and written of the nervous system as a mass of nerve units or neurons and have devoted themselves chiefly to observations and experiments concerning the internal and external morphology of these units, their relations to one another, and especially their arrangements in chains and groups, and the relations of such chains and groups to function in health and in disease. With few exceptions they have refrained from controversy on the hypothetical side. The so-called antineuronists, on the other hand, while they have made some admirable contributions to real knowledge, have devoted a remarkable amount of time and energy to polemical writing; one of them is the author of a book of nearly 500 pages in which few new facts, if any, are brought forward, the whole volume being given over to a condemnation of the neuron doctrine and a denunciatory arraignment of its supporters. In the writings of the antineuronists such statements as "the neuron theory must be abandoned," "the neuron theory can no longer be held," "the neuron doctrine is false through and through," "ueber der Neurontheorie der Stab gebrochen ist" are reiterated monotonously. That the argument has become very heated at times is shown by some sample statements which I select at random from the writings of the controversialists. One of them refers to the neuronists as the "Golgi band"; another antineuronist belittles the work of a great investigator who denies networks of extracellular neurofibrils between the neurons in leeches by stating that his results are due "wholly, certainly, to the incompleteness of his preparations"; to this a neuronist has replied that "such an expression is not only very conceited, but also very partisan and juvenile." Another strong opponent of the neuron doctrine speaks of the period since when "the ominous neuron theory has animated only those who are biased." Still another remarks that "no one with normal vision can escape the convincing impression of Apáthy's specimens, provided his eye is not dimmed by envy or injured vanity." And, finally, though I could weary you with examples, Nissl states that Ramón y Cajal "is not competent to pass judgment on histologic questions," an opinion perhaps influenced by Ramón y Cajal's criticism of Nissl's "nervous gray," which he declares to be nothing but a "very cheap anatomic-physiologic conjecture, which contradicts everything that the most convincing methods teach us of detail."

From controversial statements such as these only one thing is clear, namely, that those who have made them are quarreling about matters of opinion more than about matters of fact. There is no reason why bitter dispute should long continue over easily verifiable fact. Experience teaches, however, that it is those opinions which are most feebly founded in fact and are least capable of proof that mankind is prone most passionately to defend. Science ought to try to avoid controversy by emphasizing facts and by properly estimating hypotheses. Further, scientific men should know that, once involved in discussion, nothing is gained by the bandying about of personalities; on the contrary, confidence is inspired by simple honesty in work, fairness to adversaries, moderation in statement and dignity in utterance. That was a homely but sensible saying of Truthful James when he declared that:

> "I hold it is not decent for a scientific gent
> To say another is an ass—at least, to all intent;
> Nor should the individual who happens to be meant
> Reply by heaving rocks at him, to any great extent."

As Mr. Brander Matthews says, in his recent admirable essay entitled "Persuasion and Controversy," in reference to convincing the public, "It is not really argument which is effective; it is information." Give the medical profession a plain statement of fact, even in a technical field, and it will decide for itself. Not that discussion is unnecessary; quite the contrary. Criticism is essential to progress. As Schiller said to the thinkers and workers of his day, "Let there be strife among you, and the union will come quickly."

In 1899, in my book on the "Nervous System and Its Constituent Neurons," I tried to give an unprejudiced account of the state of knowledge at the time regarding the finer structure of the nervous system. Since then, despite the polemical activity which has prevailed, I have refrained from writing or speaking on the subject. Now, that new methods have been devised and some important new facts have been discovered, the time has come when I welcome the opportunity of reviewing once more, very briefly, the actual advances which have been made. I shall attempt, then, to-night, to pierce the dense cloud of controversial smoke which overhangs the whole neuron area in order to make as clearly visible as possible the little tongues of flame of real research hidden there. Two of these tongues are leaping high, and many think that they are likely speedily to convert the smouldering smudge of conflicting hypotheses into a brilliant blaze of fact. Ramón y Cajal lighted one of them in 1903; Ross Granville Harrison lighted the other in 1904. We shall examine them both along with other illuminating influences a little later.

II. ORIGIN OF THE NEURON CONCEPT: FACT AND THEORY IN 1891.

You are doubtless so familiar with the origin of the neuron concept that mere mention of the main factors will recall the whole story to your minds. It will be remembered that, after the nerve fibers and the so-

* An address delivered by invitation before the Harvey Society of New York.

* The author prefers the spelling "neurone" for the reasons given in his article on "Neurological Nomenclature," Johns Hopkins Hosp. Bull., 1896.

called nerve cells were discovered, there was long great doubt as to the exact relations of these histologic elements to one another. Wagner, in 1851, and Deiters, in 1864, had made it probable that of the many processes of a multipolar ganglion cell in the anterior horns of the spinal cord only one was directly related to a nerve fiber. In 1871 Gerlach had shown that the fibers of the posterior roots do not represent processes of nerve cells of the posterior horns, but that on entering the posterior horns they divide and subdivide until they exhaust themselves and are lost in the gray matter. The question of the relation of the sensory fibers to the motor cells of the anterior horns, so important in connection with the reflexes, remained, therefore, the subject of conjecture; Gerlach advanced the hypothesis that a continuous nerve network exists throughout the gray matter of the whole central nervous system, and that all nerve cells and all nerve fibers are thus connected with one another, a hypothesis which met with almost universal acceptance among anatomists and physiologists for the next fifteen years.

In 1886 the distinguished embryologist, Wilhelm His, began to publish his careful researches on the embryology of the nervous system. He stated in his papers that every nerve fiber is a process of an embryonic nerve cell (neuroblast); that, besides the process of the neuroblast, which becomes later the axis cylinder of a nerve fiber, other so-called protoplasmic processes (dendrites) grow out; that the single nerve cells wander for considerable distances during their development from the site of their origin; that the posterior roots of the spinal nerves are the axis cylinder processes of the spinal ganglion cells which grow into the cord, and that the anterior roots of the spinal nerves are outgrowths of axones of anterior horn cells, these outgrowths becoming subsequently covered by extracentral neurilemma cells. Most important was his idea that every nerve cell with its axis cylinder process and protoplasmic processes is a single cell, separate at the beginning from all other cells and from any end organ; connections with other nerve cells or with any end organ, like muscle or gland, His declared, either do not exist at all or, if they exist, arise secondarily. Embryology and embryologists were not so highly valued in 1886 by the rank and file of anatomists and physiologists as they are to-day, and His' remarkable studies made but little impression on the strongly held hypothesis of Gerlach. As a result of pathologic anatomic considerations, especially those bearing on experimental degenerations and the resulting sharply circumscribed areas of degeneration, Forel, in 1887, came to conclusions similar to those of His and opposed to those of Gerlach and the dominant school of the day.

It was not, however, until 1888, when Ramón y Cajal began to make his striking publications of results obtained by the then little-known method of Golgi applied to the study of the embryonic nervous system, that the histologic world became convinced of the value of the ideas of His and Forel. Stroke after stroke of confirmation with the method of Golgi, which put a delicate black crust of silver over the outside of the nerve cell and each one of its processes, no matter how delicate, followed in different parts of the world. von Kölliker, von Lenhossek and Edinger in Germany, van Gehuchten in Belgium, Retzius in Sweden, Schafer in England, Berkeley, Starr, Strong and others in America, repeated and extended the researches of Ramón y Cajal. Though the method is applicable satisfactorily only to embryonic tissues, its results were confirmed, in the main, especially by Dogiel and Retzius, in the tissues of the adult by the method of Ehrlich.

By the use of these two methods a newly recognized anatomic unit stood out, clearly visible in the tissues. To call it nerve cell was a little confusing, as that term had already been applied to the cell body in the gray matter independent of the related axis cylinder process. This unit included not only the old nerve cell with its dendrites, but also its axis cylinder process and all the collateral and terminal ramifications of the latter. Waldeyer[1] suggested that it be called neuron, a name which speedily found its way in all languages, including our own. Waldeyer's article, an admirable collective review of the researches in histology, embryology and pathology, undoubtedly had great influence in quickly popularizing the neuron conception. A definite anatomic fact had been established, viz., the possibility of demonstrating in embryonic tissues by Golgi's method, and in adult tissues by Ehrlich's method, a hitherto nondemonstrable unit in anatomic structure. On the basis of embryologic and pathologic work which was brought into relation with this fact, a body of doctrines, often called the neuron doctrine, was built up. A sharp distinction between the *fact* and the associated *doctrine* should be borne in mind, for much of the subsequent dispute has been due to neglect in this regard.

The associated neuron doctrine included a number of statements which at the time could be regarded as possibilities only, not as established facts. As it was formulated, it may be summarized somewhat as follows: A diffuse nerve network, in the sense of Gerlach, does not exist. There is no nerve fiber independent of a nerve cell; every nerve fiber, no matter where situated, is to be regarded as the process of a nerve cell. A nerve cell with all its prolongations (dendrites and axon) constitutes a nerve unit or neuron. These nerve units are independent of one another. They are related to one another histologically and physiologically, not by continuity, but by contact; they are not united with one another anatomically or genetically. The whole of the nervous system, exclusive of blood vessels, glia and ependyma, consists of nerve units or neurons superimposed on one another. The neurons are so arranged that a nerve impulse in a given neuron always follows in one direction; it passes from the dendrites to the cell body, from the cell body to the axis cylinder process and thence to the dendrites of another neuron. All parts of a neuron are dependent on the nutritive influence of the nucleus of the cell body. The whole neuron, axon, as well as cell body, is derived from a single body cell. When a nerve fiber degenerates as a result of severance of connection with the cell body, regeneration of the axis cylinder takes place by outgrowth from the central end—see the mass of doctrines and hypotheses clinging by their tendrils to the supporting pole of anatomic fact! Here we have not only the neuron which everybody can see who looks for it, but several neuron theories which were still more or less speculative, including (1) the Cellular or Neuroblast Theory, (2) the Theory of Regeneration of the Peripheral Axon Solely by Outgrowth from the Central End, (3) the Contact Theory, (4) the Theory Denying Extraneuronal Nervous Structures, and (5) the Theory of Dynamic Polarity of the Neurons.

1. Waldeyer, W.: "Ueber einige neuere Forschungen im Gebiete der Anatomie des Centralnervensystems," Deutsche med. Wochft., Leipzig, 1891, xvii, pp. 1244, 1267, 1287, 1331, 1352.

III. THE DISCOVERY OF THE NEUROFIBRILS: FACT AND THEORY IN 1899.

I choose 1899 as the next date of summary, for in the first place it was between 1891 and 1899 that the studies of Apáthy, Held and Bethe began to attract widespread attention and the theories of Nissl to excite comment;

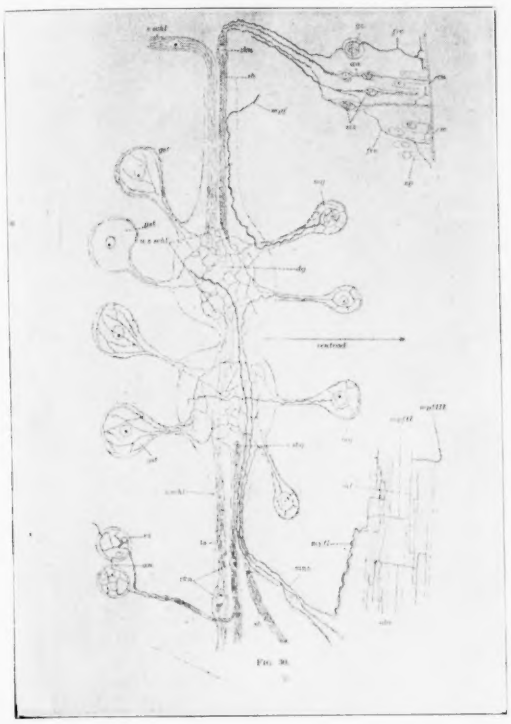

Fig. 1.—Apáthy's schematic representation of the course and connections of the conducting paths in a transverse section of the somite of the leech. (After S. Apáthy, Mitth. a. d. zool., Station at Naples, 1897, vol. xii, plate 32, Fig. 6).

Fig. 2.—Part of the network around a cell in Deiter's nucleus. The paler network is the Golgi net. Held believed that the thickenings in the network correspond to his "end-feet." He believed that the axons helped to form this network. Recent investigations do not corroborate this view. The Golgi net is now believed by Held himself to be glia. (After H. Held, 1897).

moreover, at the end of that year I summarized in a special volume the facts and theories bearing on the neuron up to the date of its publication.

The Hungarian histologist, S. Apáthy,[2] by a difficult method depending on the use of a special variety of gold chlorid, succeeded in demonstrating in the ganglion cells of various invertebrates, especially the leech, remarkable appearances of fine lines, and, in places, of networks formed by anastomosis of these lines with one another. This discovery of Apáthy is an admirable advance; it has since been manifoldly confirmed and will always stand to his credit. Confronted by such a remarkable histologic picture as the fibrils presented, he immediately began to speculate about them and advanced the following hypotheses:

(1) The neurofibrils in the nerve fibers and in the

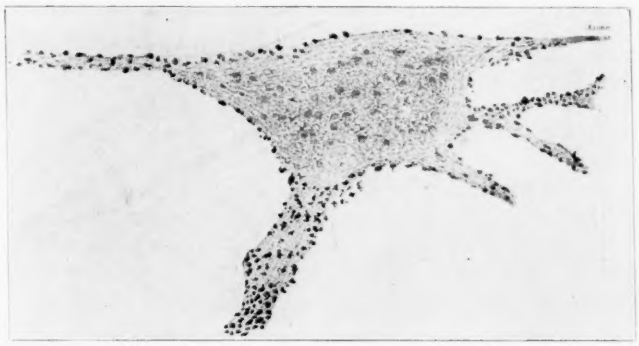

Fig. 3.—Cell from the ventral horn of the lumbar cord of an adult rabbit, showing masses of neurosomes in the "end-feet" terminating on the dendrites and cell body. (After H. Held, 1897).

nerve cells are the especial conducting element of the nervous system.

(2) There are two kinds of cells in the nervous system—"nerve cells" and "ganglion cells"; the function of the former is to build neurofibrils which grow into and through the latter, a single neurofibril passing continuously through a series of ganglion cells.

(3) In the so-called "point substance" of Leydig, in invertebrates, neurofibrils leave the nerve fibers and nerve cells and give rise to free extracellular networks of neurofibrils (Fig. 1).

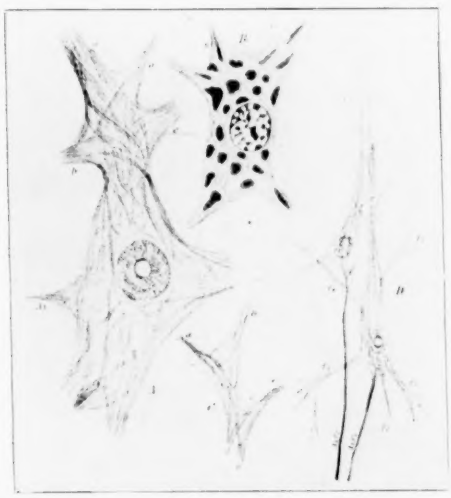

Fig. 4.—Ganglion cells with fibrils stained by Bethe's method. *A*, human anterior horn cell of man; *B*, cell from nucleus of facial nerve of rabbit, Nissl's bodies also shown; *C*, dendrite of a human anterior horn cell; *D*, two human pyramidal cells. (After Bethe, 1900). Bethe's method showed isolated fibrils, but was not delicate enough to show the anastomoses among the fibrils.

2. Apáthy, S.: "Das leitende Element des Nervensystems und seine topographischen Beziehungen zu den Zellen." Mitthell. a. d. Zool., Station ze Neapel, 1897, vol. xii, pp. 495 to 748.

Subsequent researches have not supported these hypotheses; indeed, the weight of recent research tends to discredit them all.

The studies of H. Held[3] of Leipzig took a somewhat different direction. Golgi's method had revealed around the cell bodies of neurons (1) a pericellular network which Golgi himself believed to consist of neurokeratin and (2) a pericellular plexus of the fine terminal fibers of the axons and collaterals of other neurons. Some have thought that this plexus of fine terminal fibers formed an anastomosing network—a real "pericellular net"; others have declared that the individual fibers interlaced, but did not anastomose. Held studied these pericellular structures by various histologic methods and found that the terminals of nerve fibers end in delicate expansions — so-called "end-feet" (*Endfüsse*) — recognizable by the large number of minute neurosomes which they contain on the surface of the cell body and its dendrites, fusing, he believed, by actual concrescence, with the protoplasm. He saw, he believed, delicate connections of these "end-feet" with one another in the form of an anastomosing network, so that he advanced the idea of two kinds of interneuronal connection, (1) anastomosis of the terminals of axons derived from different neurons in a pericellular network (Fig. 2) and (2) direct continuity of the protoplasm of the end-feet with the protoplasm of the cell to which they are attached (Fig. 3).

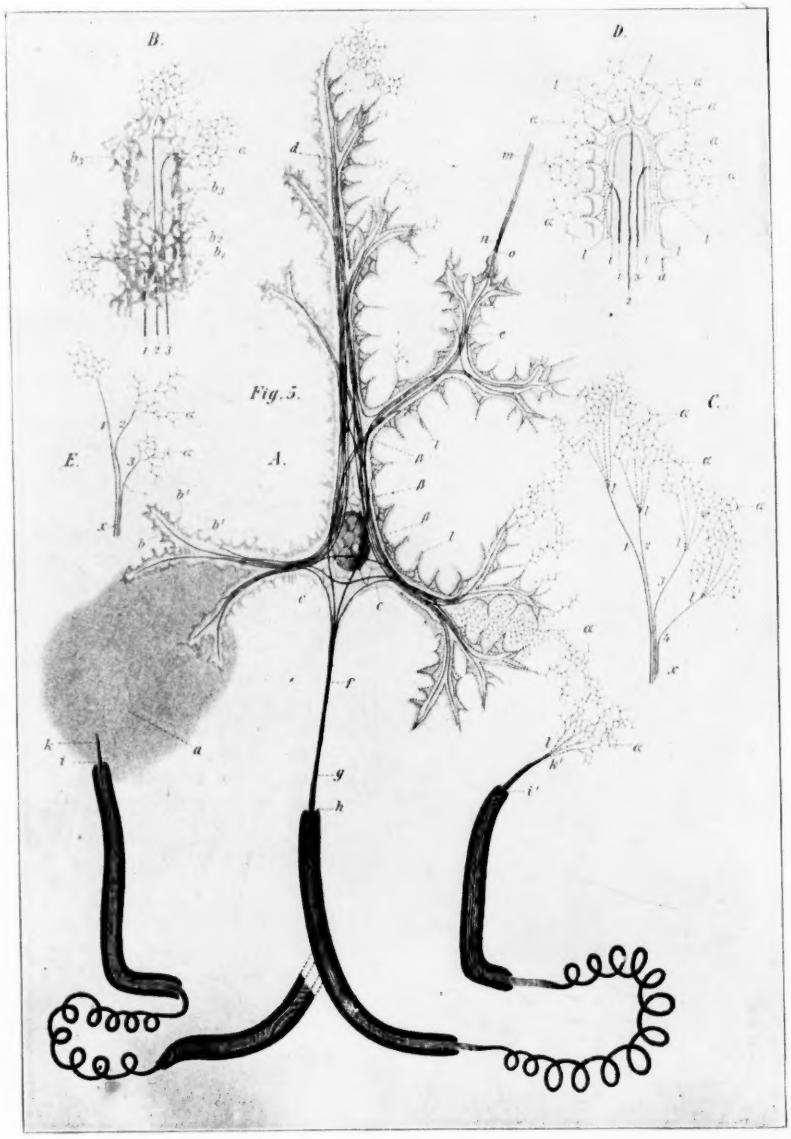

Fig. 5.

Fig. 5.—Nissl's scheme of the "nervous gray." The left half of the scheme shows the facts as known according to Nissl. In the right half Nissl's hypothesis of the structure of the nervous gray is illustrated.

Next in order came the researches of Bethe.[4] Everyone who had tried Apáthy's method of staining neurofibrils had failed with it, and when Bethe announced his discovery of an easier method of demonstrating them it was gladly welcomed. The method had the advantage, further, of staining the neurofibrils in vertebrates, including man. His method showed, he asserted, independent, non-anastomosing neurofibrils running through the cell body or passing from one dendrite to another without passing through the body of the cell (Fig. 4). He regarded the neurofibrils as the sole conducting element in the nervous system. His method showed also a pericellular network which he called the "Golgi net." It seemed to Bethe probable that this Golgi net was the medium of communication between the neurofibrils of the nerve fibers terminating about the cell and the neurofibrils inside the cell; according to this hypothesis the neurofibrils would represent a continuous conduction system throughout the whole nervous system, the so-called neurons representing, as it were, a bed in which the essential neurofibrils lie.

In 1898 F. Nissl[5] launched his hypothesis (more fully developed in 1903) of the structure of the gray matter. He called attention to how little is really known about the gray matter, information yielded by Golgi's method not being regarded as of any value. Nerve fibers we know and nerve cells we know, but in the gray matter there must be something specific which is a mystery. This mystery he designates *nervöse Grau*, or "nervous gray." He lays great stress on the Golgi nets around the nerve cells; he asserts that histologic methods leave us in the lurch when we seek to follow axis cylinders into the gray matter beyond the point where the myelin sheaths cease. There is thus an area around nerve cells and between them and the medullated nerve fibers which is filled up with "nervous gray," for him the most important constituent of the whole nervous system. While this is all we really know, Nissl says, still we must suppose that this nervous gray is so constructed that it conducts nerve impulses and permits the reciprocal action of the elements of the nervous tissues on one another.

3. Held, H.: "Beiträge zur Structur der Nervenzellen und ihrer Fortsätze," Arch. f. Anat. u. Entwecksgesch., Leipzig, 1897, pp. 204 to 294; also, supplement volume, 1897, pp. 273, to 312.

4. Bethe, A: "Ueber die Primitiofibrillen in den Ganglienzellen vom Menschen und andern Wirbelthieren," Morphol. Arch., 1897, vol. viii, pp. 95 to 116; also "Ueber die Neurofibrillen in den Ganglienzellen von Wirbelthieren und ihre Beziehungen zu den Golginetzen," Arch. f. mikr. Anat., Bonn, 1900, vol. lv, pp. 513 to 558.

5. Nissl, F.: "Nervenzellen und grauen substanz," Münch. med. systems, Leipzig, 1903, pp. 1 to 488.

He has devised a most extraordinary hypothesis to account for this function of the "nervous gray." Like Bethe's theory, it involves the communication of the neurofibrils in the nerve cells by way of the Golgi nets with a great complex of neurofibrils outside the Golgi nets (Fig. 5).

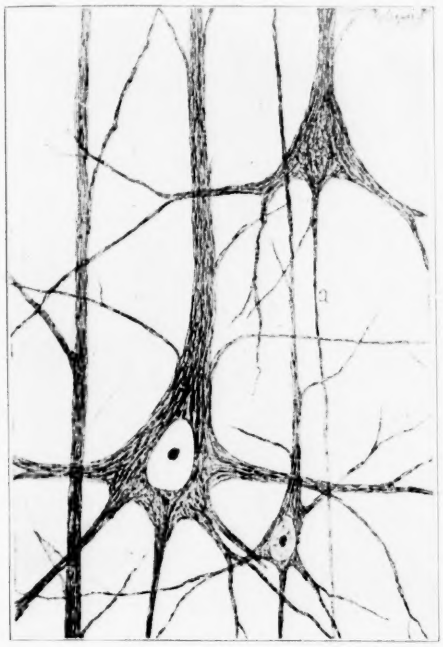

Fig. 6.—Large and medium-sized pyramidal cells from the human visual cortex. *a*, Axis cylinder. (After Ramón y Cajal, 1903).

Thus far knowledge and theory had advanced by 1899, and in my book, and in an article entitled "The Validity of the Neuron Doctrine," published in that

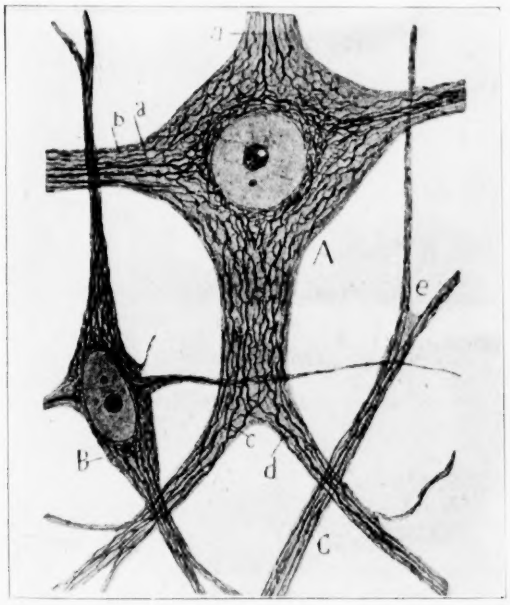

Fig. 7.—Funicular cells from a rabbit fifteen days old. *A*, large cell; *B*, small cell; *a*, large neurofibrils ramifying in the perinuclear network; *b*, fine neurofibrils continuous with the cortical network; *d*, *c*, neurofibrils bifurcating on their arrival at a large dendritic trunk. (After Ramón y Cajal, 1903).

year, I called attention to these phases of the subject, advised active skepticism as regards the new hypotheses of Apáthy, Bethe and Nissl, and expressed the opinion that, even if the neurofibrils really represent a constant constituent of the nerve elements, and even if the interneuronal relation be a more intimate one than that of mere contact or contiguity, the essential feature of the neuron conception remains unaltered, Waldeyer having

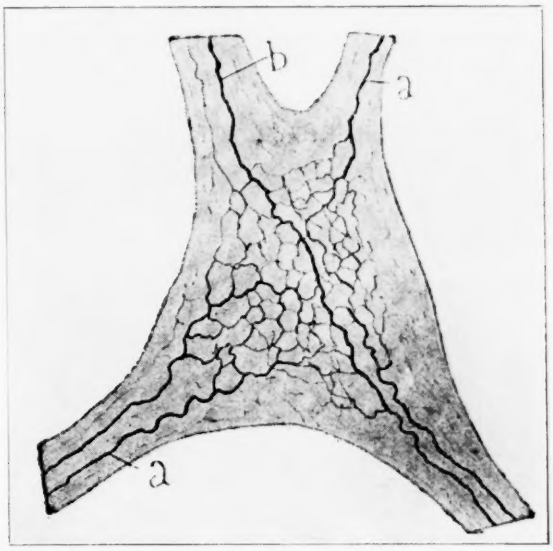

Fig. 8.—Large funicular cell from a rabbit eight days old. Certain only of the primary neurofibrils have been drawn. The network formed by the anastomoses of these filaments is well shown. *a*, neurofibrils terminating in the network; *b*, primary neurofibril running through. (After Ramón y Cajal, 1903.)

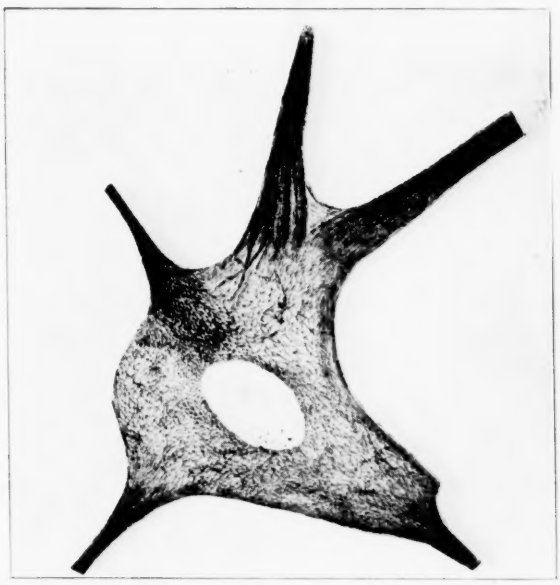

Fig. 9.—Cell from the spinal cord. (After Donaggio).

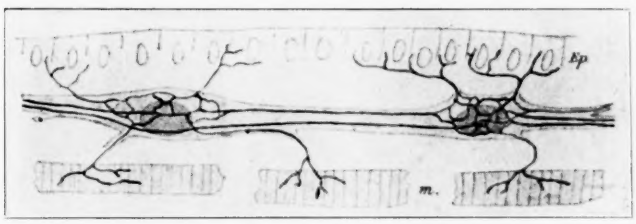

Fig. 10.—Scheme of the course of the neurofibrils in a nerve network in lower animals. (After Bethe, 1903.) Not confirmed by recent researches.

stated in an article in which he gave the neuron its name that "if we assume . . . the existence of nerve networks, the conception is somewhat modified, but we

can still retain the nerve units. The limits between two nerve units would then always lie in a nerve network and not, anatomically at least, be exactly definable with our present methods." I accompanied my review, therefore, at that time, with the statement, "There may be

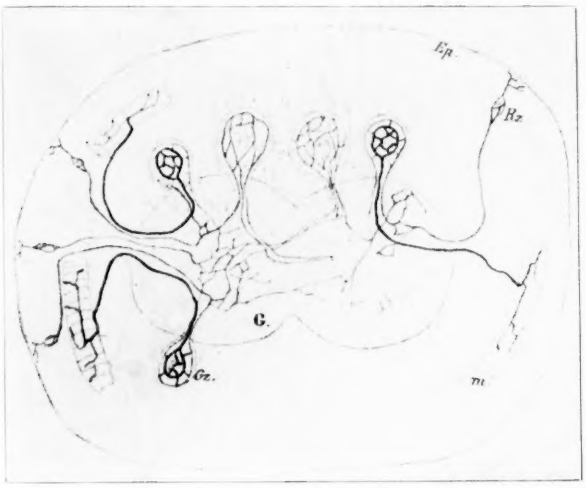

Fig. 11.—Scheme of the course of the neurofibrils in the nervous systems of worms. *G*, ganglion; *G z*, ganglion cells; *R z*, reception cells. (After Bethe, 1903). Not confirmed by recent researches.

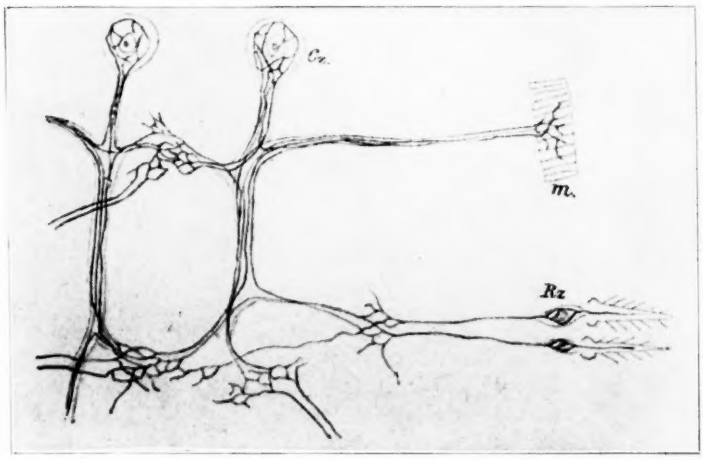

Fig. 12.—Scheme of the course of the neurofibrils in the nervous system of the crab. (After Bethe, 1903). Not confirmed.

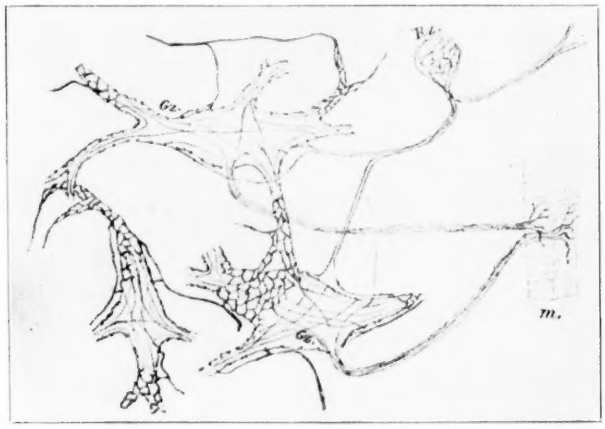

Fig. 13.—Scheme of the course of the neurofibrils in the nervous system of vertebrates. (After Bethe, 1903.) Relation to the Golgi net is shown. Not confirmed by newer work.

units smaller than cells, and in all probability there are; there may be, and probably are, in the nervous system units other than those generally described, and it is important that we should find out all that there is to learn about them; but that the human body is made up largely of a mass of cells, and that the human nervous system is made up largely of great numbers of cell units, the so-called neurons, would seem to be facts too firmly established ever utterly to be overthrown."

IV. MORE RECENT WORK: FACT AND THEORY TO-DAY.

During the next five years (1899-1904) the subject of neuro histology was enriched by a mass of detailed

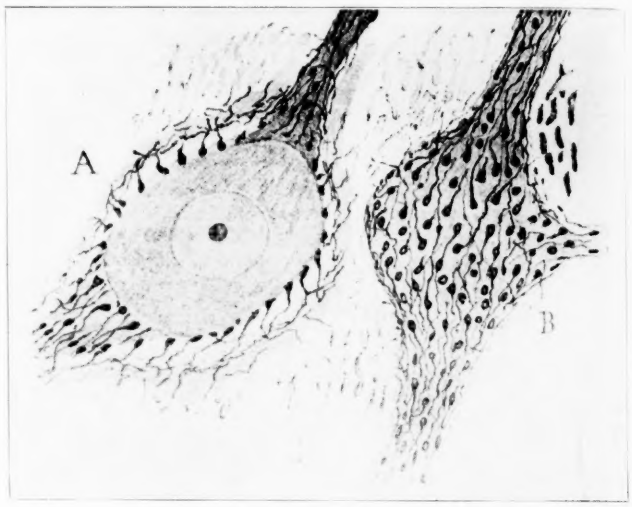

Fig. 14.—Two large funicular cells of the spinal cord of the adult rabbit. *A*, section through a cell showing terminal buttons of Auerbach ending on the surface of the cell and on the dendrites; *B*, terminal buttons shown on the surface of the cell. (After Ramón y Cajal, 1903.)

investigative work.[6] Many studied the neurofibrils and extended our knowledge of them, among them Paton, Prentice and Biart in America. In addition, the

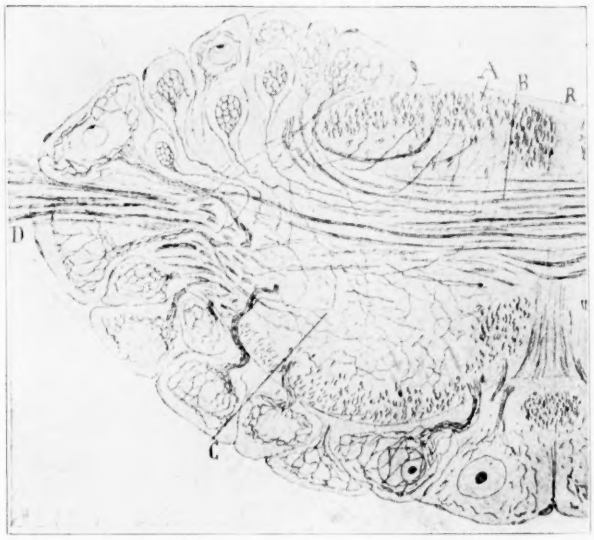

Fig. 15.—Transverse cut through a ganglion of the leech showing the neurofibril networks in the ganglion cells and the non-anastomosing plexus of neurofibrils in the point substance. (After Ramón y Cajal, 1903.)

period of polemical writing on the neuron and the neuron doctrines reached its zenith. Edinger, in 1898, had urged the importance of the concept of the neuron

6. See the review by Prof. G. E. Goghill, "Recent Studies on the Finer Structures of the Nerve Cell," Jour. Comp. Neurol., Granville, O., 1904, vol. xiv, p. 171.

as a biologic unit; Hoche (1899) had admitted that the histologic unity of the neuron could no longer be upheld, but urged that it was a functional-trophic unit. Münzer (1899) took the stand that the neuron doctrines were better founded than ever, and that the criticisms of Nissl and Bethe were without weight. Auerbach (1899) supported a modified neuron doctrine, while Semi Meyer, von Lenhossék, van Gehuchten, and Ramón y Cajal could see no reason for changing the original conception and doctrines. Max Verworn, in a collective review read before the German Society of Naturalists in 1900 took almost precisely the stand I took in 1899. The two longest publications of the anti-neuronists are those of Bethe (1903) and Nissl (1903). Bethe's book,[7] while it represents a vigorous attack on the neuron doctrine, embodies the results of most interesting and important original researches, and should be carefully read by every neurologist. Nissl's large volume,[8] which was reviewed for the *Psychological Bulletin* by Dr. Adolf Meyer, is devoted entirely to controversy and is looked on by ardent neuronists as a sort of attenuated curse of St. Ernulphus on the neuron doctrine and its supporters.

In December, 1903, by good fortune, I happened to be in Madrid just at the time when Ramón y Cajal[9] announced his discovery of a new and easy method for demonstrating the neurofibrils. He kindly showed me his preparations, which made clear at a glance that a flood of new light was at once to be thrown on these remarkable constituents of the nerve cells and nerve fibers (Figs. 6, 7 and 8). His method is simple, is easily applicable to invertebrate as well as to vertebrate tissues and to the embryonic nervous system as well as to that of the adult. It stains the fibrils much more perfectly than is possible with the methods of Bethe and Apáthy, and has the further advantage that it leaves the glia entirely unstained. A somewhat similar, though more complex, method, devised independently and almost simultaneously by Bielschowsky[10] of Berlin, is also now much used for demonstrating the neurofibrils. The finest fibrils are said to be best shown by still a third method, that of the Italian investigator, Donaggio[11] (Fig. 9).

Let us now turn to an examination of the principal points which have been under discussion of late and see what is the actual state of knowledge concerning them.

(*a*) *The Neurofibrils, Golgi Nets and Interneuronal Relations.*—Studies by the methods of Cajal and Bielschowsky and by the method of Donaggio have shown how rich and delicate the network of neurofibrils in the nerve cells is. Bethe's method stained only the coarser strands, which, therefore, looked like isolated fibrils. The newer methods demonstrate finer fibrils, forming anastomoses among these. Bethe's schemata (Figs. 10, 11, 12 and 13) of varying arrangements of neurofibrils as the animal scale is ascended are not confirmed by these newer methods. On the contrary, the nerve cells as regards the neurofibrils are similarly built throughout the whole animal series. There appear to be no independent neurofibrils, but only neurofibril networks embedded in the nerve-cell protoplasm (see figures). The network extends through the whole neuron, but the mass of the network may increase or diminish in size in various parts. Thus there is a large fibril network in the cell body, and this is connected by the attenuated fibril network of the axon, with expansions of the network in the terminal fibers. The so-called "end-feet" of Held are now known to be identical with the terminal buttons of Auerbach, and these, ending on the surface of the cell body and dendrites, are exquisitely demonstrated by Cajal's method (Fig. 14). I have placed a specimen under the microscope illustrating them. These terminal buttons contain neurofibril networks. Nowhere, in specimens stained by Cajal's method or by Donaggio's method, in the cell body or in the terminal buttons, thus far have the neurofibrils been seen actually at the surface; it is stated that there is always an area of fibril-free protoplasm between the networks and the cell boundary.

These recent methods which stain the neurofibrils so exquisitely do not reveal any extraneuronal neurofibrils whatever, either in the region of Nissl's "nervous gray" (Cajal, Retzius) or in the so-called point substance or neuropilem of invertebrates (Cajal, Retzius) (Fig. 15). The whole area of Nissl's nervous gray appears in Cajal's specimens as a feltwork of dendrites and terminals and collaterals of axons containing neurofibrils within their protoplasm. The Golgi nets do not stain at all with Cajal's neurofibril method. Moreover, Held, by other methods, has concluded that they are derivatives of the glia; both he and Donaggio deny their nervous character. There is some evidence that the terminal buttons, to which I have referred, reach the protoplasm of the nerve-cell body by lodging in the meshes of the Golgi net. No one has been able to demonstrate any relation between neurofibrils and Golgi nets. In the light of these newer studies the enormous importance attributed by Bethe and Nissl to the Golgi nets seems, therefore, to have been premature; their views are unsupported by facts.

(To be continued.)

7. Bethe, A.: Allgemeine Anatomie und Physiologie des Nervensystems, Leipzig, 1903, pp. 1 to 488.

8. Nissl, F.: Die Neuronen lehre und ihre Anhänger, Jena, 1903, pp. 1 to 478.

9. Ramón y Cajal, S.: "Unsencillo méthodo de coloracion del reticulo protoplasmico e sus efectos en los diversos centros nerviosos de verte brados é invertebrados." Trab. del Lab. de investig. biol., Madrid, 1903, vol. ii, No. 4; also, Translation by Azoulay, Bibliogr. anat., Par. and Nancy, 1905, vol. xiv, pp. 1 to 93.

10. Bielschowsky, M.: "Die Silberimprägnation der Neurofibrillen," Neurol. Centralbl., Leipzig, 1903, vol. xxii, p. 997 to 1006; also "Ein neues Impregnations verfahren zur Darstellung der Neurofibrillen." Arch. f. Psychiat., Berlin, 1905, vol. xxxix, pp. 1321 to 1323.

11. For an epitome of Donaggio's method and work, see Donaggio, H.: "The endocellular fibrillary recticulum and its relations with the fibrils of the axis-cylinder." Rev. Neurol. and Psychiat., Edinb., 1905, vol. iii, pp. 81 to 100.

THE BLOOD-CLOT DRESSING IN MASTOIDECTOMY, CONSIDERED PHYSIOLOGICALLY.*

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That the special surgeon can profit largely by keeping in close touch with general surgery is generally admitted, but that all surgeons would gain immeasurably from as intimate an alliance with physiology as they have established with anatomy and pathology is a fact, perhaps, not so well recognized. Commenting on this matter, in his last review of surgery, in the December number of *Progressive Medicine*, Dr. Bloodgood alludes to the fact that the physiologist, not specially interested in practical surgical questions and not brought into contact with the daily vital problems confronting the oper-

* Read before the Southern Section of the American Laryngological, Rhinological and Otological Society at the annual meeting, held in Norfolk, Va., 1906.

ating surgeon, during his scientific investigations, learns many physiologic facts which would be of great value to the surgeon, yet, with the rarest exceptions, this valuable information is lost, so far as the practical surgeon is concerned. An occasional collection and fitting together of bits of knowledge gained in the course of many physiologic investigations, studies made perhaps without a thought of their bearing on surgery, might enable us to elucidate some of the important problems with which the surgeon has to deal. The possibilities of such a plan occurred to me some months ago while listening to a discussion on the treatment of mastoiditis and, being deeply interested in the blood-clot dressing of the mastoid wound, I determined then to consider from the physiologist's point of view the advisability of employing that method.

It is only a few years since aural surgeons were discussing with great animation the proper method of procedure for the opening of the mastoid process when diseased. To-day we do not debate over the propriety of a simple incision in the overlying soft tissues, a small perforation in the outer cortical layer of the bone or the more extensive invasion of the mastoidal cellular structure; unanimity of opinion has been reached on that point. The history of the development of the operation of mastoidectomy has been furnished us in a most interesting and entertaining way by Dr. Whiting, and we will certainly all agree with him without cavil, however we may differ in the details of performing the operation, in the dictum that the operation of the present period has for its prime object the complete and immediate eradication of all the diseased tissue. In other words, in every operation for mastoiditis the surgeon now endeavors to remove every particle of pus, detritus and necrotic or carious bone, even though he be compelled to obliterate the cellular structure of the tip, the zygomatic process and the occipital region, or to invade the cranial cavity itself. Assuming that all this has been accomplished, however, does it constitute a complete operation?

I think we may accept as applicable to mastoid surgery a statement made by J. Collins Warren,[1] with reference to osteomyelitis, that: "Modern surgery demands a complete operation; that is, one which insures rapid and permanent healing of the wound." Permanent healing of the wound will usually follow such an operation as is referred to above, but rapid healing is not so commonly assured. The ideal operation might be described as one which gives the greatest promise of a cure in the shortest possible time and at the least expense of comfort to the patient. If a mastoid wound be dressed with sterile or antiseptic packing at the time of operation, the period of healing will vary from three weeks to several months; very rarely will complete closure occur in less than this time, and I have frequently seen cases that required dressing over a period of six months. It can not be denied, either, that these dressings are often distressingly painful to the patient and always time consuming and more or less annoying for the surgeon. If a method of dressing the wound can be devised which will promote rapidity of healing without additional risk to the welfare of the patient, it will certainly add very materially to the comfort and happiness of both patient and operator. Such a method, I believe, has been provided for us in the blood-clot dressing, first recommended for use in the mastoid operation by Dr. Clarence J. Blake, of Boston, with whose papers on the subject all of you are doubtless familiar.

The primary object of this dressing is to obtain healing of the wound by first intention, but, when this occurs, other advantages accrue; for instance, the normal contour of the mastoid process is restored, the resulting scar is a mere line which is entirely hidden from view by the auricle, and the period of healing is reduced to five or seven days, with practically no after-treatment. No deformity, almost no scar, and primary union constitute, on the whole, a stake worth playing for. On the other hand, in cases in which the blood clot fails to organize, there is no additional risk to the patient; should the wound not have been so clean as was supposed or should the clot become infected in any one of various possible ways, it simply breaks down and the wound has to be opened, cleansed and packed in the usual way, the patient then being in practically the same position he would have occupied had the open method been employed primarily.

With the modern teachings of surgery constantly before us, that all pus cavities should be treated as open wounds and compelled to fill up by granulation from the bottom, it is not surprising that this suggestion of Dr. Blake should have been received with skepticism. As I have talked with my confrères or listened to the discussion of the subject in otologic congresses, it has seemed to me that men hesitated to employ the method, first, because of a fear of the possible consequences of inclosing in the wound some microscopic particles of infective material and, second, because they considered the normal blood clot a favorable medium for the growth of bacteria. So far the answer to these expressed or implied criticisms has been solely in the nature of relating clinical experiences. A certain percentage of excellent results have been shown by those who have used the blood-clot dressing and as yet no one has related any unpleasant experience.

It is my purpose to take up these objections from another point of view, namely, to consider what happens when a clean cavity in bone tissue is filled with healthy blood clot, what power such a clot may have to overcome infective material that may have been inadvertently left in the wound, and whether general surgeons have any analogous experiences with other portions of the bony frame work, to assist us in drawing conclusions regarding the mastoid portion of the temporal bone.

Experimental and clinical studies have shown that if any clean wound be filled with the patient's own blood, and safeguarded from later infection, the blood clot tends to organize and new tissue, similar to that inclosing the clot, soon forms to replace the latter. The blood flowing into the wound cavity rapidly clots and the fibrinous framework of this clot constitutes a scaffolding on which the new tissue is built. Fresh granulations spring from the walls of the cavity and grow out into the clot, forming a new fibrous connective tissue, the nature of which is further altered to accord with the character of the surrounding cavity walls; that is, if the wound be made in bone, osteoblasts are sent out from the bony walls or from the periosteum to convert the fibrous substance into osseous tissue. The migratory power of these osteoblasts is limited, and they travel only a short way from their starting point, so that, in the case of a large cavity in bone, the newly-formed bone does not extend far from the cavity wall, and the

1. "Surgical Pathology." J. C. Warren, 1895, p. 214.

center of the new-formed tissue remains fibrous in character. It seems quite probable, however, that in a small cavity, such as we ordinarily make in the mastoid process, the osteoblasts, reaching out from all directions, may extend a sufficient distance to meet in the center and thus to complete the construction of a new bony process. Just how early this osteoblastic activity commences is not known, but such cells have been observed to form within forty-eight hours after the operation, and it is certain that granulation tissue grows more rapidly into a healthy blood clot than into space. It is plain, then, that Nature may be greatly aided in the reconstruction of destroyed tissue by providing an excellent framework on which to build and leaving her only the task of furnishing vascularity and new tissue cells.

But, suppose the wound cavity to be treated is not absolutely clean, that some invisible particle of septic material is present when the blood is introduced, has the blood any bactericidal or antitoxic powers? A long series of observations by the most careful investigators has clearly proved that the normal human blood does possess such properties. Metschnikoff, Nuttall, Fodor, Lubarsch, Vaughan and Novy and a host of others have published most interesting work on this subject. From their several experiences we may safely draw the following conclusions: The normal human blood possesses bactericidal power, varying in degree in its antagonism to different micro-organisms; this property of the blood is greater after it is drawn from the vessels than while circulating intravascularly; the microbe-destroying substance is found in the serum, but is produced by the leucocytes; certain chemical changes in the blood may be induced either to increase or to diminish its bactericidal power, and this property of the blood naturally diminishes after the clot is forty-eight hours old.

Nuttall, following a suggestion of Metschnikoff, was probably the first to demonstrate the bactericidal power of normal blood serum. Working under the direction of Flügge, in 1888, he used defibrinated blood taken from various species of animals and found that this blood destroyed the *Bacillus anthracis, Bacillus subtilis* and the *Staphylococcus pyogenes aureus* when brought into contact with them. He also confirmed the finding of Fodor that after awhile the blood loses its germicidal properties and becomes a suitable culture medium in which germs grow abundantly.

The fact having thus been determined that the blood serum removed from the body acts far more rapidly and energetically on microbes than the plasma and lymph within the body, the disparity of action was further shown by Lubarsch,[2] who attempted to ascertain the exact power of the blood of some animal over a given serum; using the bacillus of anthrax and experimenting on rabbits, he injected known quantities into the circulating blood and found that this animal was quite able to take care of a dose of less than 16,000 germs, but if a larger number were injected fatal infection resulted. If he drew a small quantity of blood from an animal of the same class and size into a test tube and inoculated that with the same micro-organism, many times that number of germs were destroyed; that is, one cubic centimeter only of the rabbit's blood serum would destroy more than 16,000 of these germs when inoculated into the clot outside the body, and he could not, after a few minutes, reproduce them by culture from the clot.

Then a most interesting series of investigations followed to determine what element of the blood possessed this bactericidal quality and how it acted. Vaughan and McClintock have presented the most conclusive report on these points, and they hold that the leucocytes secrete some substance which is poured into the serum, that this substance is a proteid, and that the only proteid likely to be present in blood serum to which such properties could be attributed is nuclein.

The clotted blood possesses greater power than the circulating blood probably because in the formation of the clot the leucocytes break down and discharge their entire complement of this nuclein. Other workers have demonstrated the transient duration of this power in the blood clot, a power which seems to diminish rapidly after forty-eight hours, and the fact that certain chemical changes in the clot may cause a variation of its power. The bactericidal power seems to be present in freshly drawn blood only when it is alkaline in reaction. If its alkalinity be raised above normal the bactericidal power will be somewhat enhanced, but if the blood be below normal alkalinity or if it be rendered acid in reaction such power is diminished or actually destroyed. The nuclein acts only in an alkaline serum. Again, if alcohol be added to the blood, the bactericidal property is destroyed through the precipitation of the albuminoid constituent. Bichlorid of mercury, likewise, has a deleterious influence on the bactericidal property of blood serum.

These chemical experiments have an important bearing on the use of blood clot as a surgical dressing.

The use of carbolic acid and alcohol for the cleansing of the wound, as an extra precaution of cleanliness, prior to the introduction of the blood, has been recommended by some surgeons, but it seems not unreasonable to venture the suggestion that some of the failures with the blood-clot dressing may have been due to excessive zeal in the use of carbolic acid and alcohol for antiseptic purposes. If exact neutralization were possible and the wound left in a neutral state, no harm could result from the employment of these substances, but if there be left any measurable quantity of either it militates against success. On theoretical grounds it would appear more rational to rely on dry cleansing of the wound with instruments and sterile sponges, or to wash the cavity with sterile salt solution which, if it produces any effect on the coming clot, renders it more alkaline and increases its power to control septic material.

Leaving the realm of experimental medicine and turning to practical surgery, we find, again, the strongest possible indorsement for the employment of healthy blood clot in the healing of wounds. Most physicians are familiar with the epoch-making report of Schede, "Ueber die Heilung von Wunden unter dem feuchten Blutscharf," or know of the most excellent results obtained by Halsted and his associates in the treatment of osteomyelitis by this method. The whole subject was excellently presented by Professor Halsted several years ago and, as there is no higher authority, I could do no better than quote from his paper.[3]

After reviewing the objections to leaving blood in wounds and the bearing of Lister's work on the subject, he says:

"Although prefectly familiar with the organization of the

2. Allbutts' System of Medicine, vol. I, p. 89.

3. Johns Hopkins Hosp. Reports, vol. II, p. 255-261.

blood clot, it apparently never occurred to Lister to make a systematic effort to utilize the blood clot and to imitate Nature's method of disposing of the dead spaces in wounds.

He has taught us what can be done under the cover of antiseptics. One may maltreat the tissues to any extent, mutilate the wound during the operation in every possible way, cut off by ligatures the circulation in large masses of tissue, produce extensive areas of superficial necrosis by irrigation with antiseptic solutions, stuff the wound with gauze and drainage tubes, tear out the stuffing and with it the granulations which have grown into it, restuff, etc., and still the wound may heal without suppuration, without septic inflammation and in a way which is, perhaps, altogether satisfactory to the surgeon.

But now that wound infection is for many surgeons almost a thing of the past, we may ask ourselves if, after all, our wounds are ideal wounds. One naturally hesitates to attempt to give one's notion of an ideal wound. His ideal wound of to-day may not be his ideal wound of next year or even of to-morrow. I conceive an ideal wound to be one which immediately after the operation is reduced to the condition of a non-penetrating subcutaneous wound, and which is as free as this is from the dangers of infection.

Impressed by the work of Küster, Neuber and others, and entertaining with them the same fears of blood in wounds, it was my practice for several years to attempt with the utmost care to obliterate the dead spaces in wounds. The results were gratifying, but the technic was often very tedious. For example, after an amputation of the thigh it would not infrequently take an hour to obliterate all the dead space. The mechanical problems were sometimes quite difficult, and one was perpetually annoyed by the fear that he might strangulate the tissues included in the sutures. After a time I became convinced that it was impossible to obliterate thoroughly all the dead spaces in some wounds, and I observed that wounds in which the dead spaces were not obliterated healed throughout by first intention just as regularly as did the other wounds. I was, therefore, quite prepared to welcome Schede's article on the healing of wounds under the moist blood scab. This contribution by Schede[4] I believe to be the greatest which has been made to the technic of surgery since the introduction of antiseptic methods by Lister.

The immortal John Hunter was many years in advance of his time when he expressed himself on scabbing and the organization of the blood clot as follows: "In many deep-seated wounds, where all the parts have remained in contact, those underneath will unite much better if the surface be allowed to scab. Some compound fractures (more especially where the external wound is very small) should be allowed to heal in the same way, for by permitting the blood to scab on the wound, either by itself or when soaked in lint, the parts underneath will unite, the blood under the scab will become vascular and the union will be complete even when the parts are not in contact. Many wounds ought to be allowed to scab in which this process is now prevented, and this arises, I believe, from the conceit of surgeons who think themselves possessed of powers superior to Nature, and, therefore, have introduced the practice of making sores of all wounds."

From these and similar experiments and experiences, I think we are fully justified in using the blood-clot dressing to complete the operation of mastoidectomy, and I only wish to add a few words regarding the technic of its employment. You will infer from what I have said that very little can be done to assist the blood clot in its possible conflict with overlooked septic material, but a good service can be rendered by avoiding some things that would tend to hinder the blood in its beneficient work.

In the first place, the nearest possible approach to absolute surgical cleanliness must obtain throughout the operation. This applies not only to the operator and his assistants, to the sterilization of all instruments and the protection of the operation field by proper sterile sheets or towels, but also the perfect removal, so far as can be determined, of every particle of infective material and of diseased tissue.

Next, it is exceedingly important that the wound be closed in such a way as to prevent the introduction of new infection and to promote primary union. It is my opinion that a good many failures with the blood-clot dressing have been the result of faulty closure of the soft parts. Shreds of tissue that may be infected or that would prevent neat apposition of the margins should be cut off. Chemical sterilization of the wound should not be attempted. If irrigation is considered necessary, sterile normal salt solution may be employed. Finally, for the closing of the wound, the subcutaneous silver wire suture recommended by Halsted may be used.

All physicians are familiar with the experimental work performed some years ago by Professor Welch on the sterilization of the skin. Making use of the most approved methods of cleansing the skin's surface, he could still secure a bacterial growth from the deeper layers of the corium and he determined that this region was the natural habitat of the *Staphylococcus epidermidis albus,* which germ was the active factor in the production of the common stitch abscess. If the sutures be carried through the skin from side to side of the wound, it not only makes the opportunity for a stitch abscess, but opens up a new avenue for infection of the clot. In many instances this will not be sufficient to cause a breaking down of the clot, but if that blood is having a battle with septic particles within the cavity this may be the last straw needed to cause a breakdown.

Furthermore, in the subcutaneous method of suturing wounds, silver wire is the best material to use because it possesses antiseptic properties of its own. Some years ago Bolton, working in Kelly's laboratory, undertook to ascertain the relative value of suture materials, and he found that the best of all was copper wire and next to this came silver; inasmuch as the latter is, for commercial reasons, most available and the antiseptic properties but slightly different, he recommended the general use of silver. It can be easily and surely sterilized by boiling, while catgut is, under the best of circumstances, unreliable and silk is only less so. With a subcutaneous silver wire thread, lacing the wound from side to side, and not penetrating the skin at any point, one has a suture easy of introduction, perfectly sterilizable, strong enough to bear any traction necessary to secure good apposition of the wound lips, and removable without pain at the proper time. A layer of silver foil over the closed wound, before the sterile gauze dressings are applied, will add something to the protection against septic invasion.

It may be too much to say that the complete operation referred to here and described so well to-day by Drs. McKernon and Bryant, with the blood-clot dressing, will constitute the ideal, but I believe it will come to be accepted as the standard operation of mastoidectomy.

4. M. Schede: "Ueber die Heilung von Wunden unter den feuchen Blutschort." Verhandlungen der deuts. Gesellschaft für Chirurgie, 1886.

Stokes-Adams Disease in Incipient Paresis.—M. E. Rist (Bull. et. Mem. de la Societe Med. des Hopitaux) reports a case of Stokes-Adams disease complicating the early stages of paretic dementia of syphilitic antecedents. The relation between the bradycardia and the meningo-encephalitis seemed evident, but he remarks that, while lues is known as a cause of either condition, the combination here seems novel.

SOME OBSERVATIONS ON CEREBRAL PARALYSIS.*

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These observations will be limited to the cases of paralysis that are the result of cerebral embolism, hemorrhage or thrombosis.

These three pathologic conditions constitute the vast majority of the cases. The records of Cook County Hospital for 1903 show four cases of embolism, sixty-five cases of hemorrhage and twenty cases of thrombosis. In thirty-two cases of cerebral paralysis the pathogenesis was in doubt. The records of the year 1904 show six cases of embolism, sixty-nine cases of hemorrhage, thirty-one cases of thrombosis and thirty-four cases in which the pathogenesis was doubtful.

Differentiation was made either in the postmortem room or by a medical staff very skilled in diagnosis, and they differ somewhat from the ordinary published records of such cases. They show an immense preponderance of hemorrhage, and this should be remembered at the bedside when an effort is being made to work out a diagnosis in any given case.

The records of the health office of Chicago give the following interesting results:

DEATHS—Total from apoplexy, first period, 1885-1904	4,653
Second period, 1895-1904	6,036
Actual increase, second period	1,383
POPULATION—Average yearly, first period	987,644
Second period	1,656,600
DEATH RATES—Apoplexy, per 10,000 of population, first period	4.7
Second period	3.6
Per cent. decrease, second period	23.4
RATIO—Apoplexy deaths to total from all causes, first period	2.3
Second period	2.4
Per cent. increase, second period	4.4

The percentage of decrease in the second period as set forth by the table is interesting. The death rate of Chicago has been decreasing for several years, until today it shows a record that is very remarkable, being the lowest of any large city in the world. This decrease in cerebral apoplexy, which corresponds with a decrease in nervous diseases generally during the second period, is an encouraging outlook and would seem to show that the people of that strenuous city are adjusting themselves physically to the conditions there.

ETIOLOGY.

Cerebral paralysis in the cases to which these observations are limited is the result of periarteritis or endarteritis, producing hemorrhage or thrombosis, and endocarditis resulting in embolism.

The periarteritis or endarteritis in the case of hemorrhage weakens the muscular coat of the vessel and produces aneurisms, usually miliary, and the process continues until the walls become so feeble that rupture occurs. In the case of thrombosis the intima becomes roughened and gradually fibrinous deposits take place, little by little obliterating the lumen until finally occlusion occurs. In the first case the blood vessel carries the blood current with sufficient success to meet the ordinary demands of the brain for nutrition until the moment that rupture occurs. Hence there is in hemorrhage usually an absence of prodromal symptoms. In the second case the process of obliteration is slowly carried on and the nutrition of the brain is more or less interfered with from the beginning; therefore, prodromal symptoms are the rule, such as headache, vertigo, transitory paresis and aphasia and a sense of general discomfort in cerebral function.

In the case of endocarditis there is as a sequence the formation of polypoid vegetations on the valves of the heart, and later these vegetations become detached and are carried by the blood current until they reach a point beyond which they can not pass and occlusion occurs. For anatomic reasons with which you are perfectly familiar, the usual route traveled by an embolus is the left common carotid artery, the left internal carotid, the left middle cerebral, and the occlusion occurs in one of the branches of this artery that supplies the basal ganglia and the internal capsule. There is under these circumstances no interference with the brain nutrition until the very moment occlusion occurs, and, therefore, there are usually no prodromal symptoms, except such as are of a general character that may arise from an uncompensated heart.

The cerebral circulation is remarkable in the comparative absence of anastomosing branches, in the terminal character of the vessels, and in the fact that they lie in the perivascular spaces without the usual protection that contiguous tissue gives in other parts of the body, and the seriousness of any one of these pathologic processes is greatly increased by the interference that it produces in the brain with the lymph circulation. The vessels that supply the basal ganglia and the internal capsule, arising directly from the middle cerebral arteries, are comparatively large and have generally a high blood pressure, and the pathologic process that occurs here is not only more extensive, but more frequent.

In these several pathologic conditions we must not only consider the direct damage done to the brain by the destruction of neuraxons that lie in the focus of the lesions, but around about this focus there is always an area more or less extensive of collateral edema and exudation that for a time effectually destroys the functions of the territory.

The apoplectic coma must be differentiated from the syncope of alcoholic intoxication, from the coma of epilepsy, uremia, diabetes and from drug poisoning. In some cases this is extremely difficult. An eminent medical practitioner of Chicago some few years ago left his home to visit a case some distance away. He was quite fatigued on leaving his home and took a drink of whisky. Before he reached the house of his patient he fell on the sidewalk; a policeman, passing by, recognized him, smelt the alcohol on his breath, jumped to the conclusion that the doctor was intoxicated, carried him to a near-by drug store, and placed him in a rear room until he would recover from the alcoholic intoxication, as he supposed. A doctor, who officed over the drug store, was called in to see him, and he accepted the diagnosis of the policeman. When morning came the good doctor's coma, if anything, had deepened, and then consultation was called and his family notified. At the time of consultation there was but little difficulty in the differentiation. The muscular tonus of the two sides was different; there was conjugate deviation of the face and of the eyes. Skin reflexes were lost on the paralyzed side. There was a well-defined Babinski toe sign. Arterial tension high. Rectal temperature lowered. Temperature on the paralyzed side increased. Perspiration marked on the paralyzed side. These several symptoms and the absence in the history of prodromes rendered the diagnosis of cerebral hemorrhage possible, which was subsequently verified by postmortem. Mistakes

* Read before the Sioux Valley Medical Association.

such as were made in this case are not at all infrequent in large cities and warn us that we should always be on our guard and not be led astray by alcoholic odor on the breath. I regard the conjugate deviation of the face and eyes and the Babinski toe sign when present (unfortunately they are not always present) as invaluable pathognomonic signs.

In thrombosis we should expect a series of prodromal symptoms covering a space of several months, a low arterial tension, a slight degree of coma, unchanged temperature, and a pale face. In a recent case of cerebral paralysis, however, prodromal symptoms that were present for a few days before the apoplectic seizure and the normal arterial tension resulted in a diagnosis of cerebral thrombosis, when the postmortem findings gave cerebral hemorrhage.

I am very much of the opinion that we should be extremely guarded in reaching positive conclusions as to whether a given case is one of hemorrhage, thrombosis or embolism. In embolism we do not expect arteritis, we do not expect prodromata, and we do find valvular heart disease, but we must bear in mind that a valvular heart disease is not inconsistent with the possibilities of either thrombosis or hemorrhage.

The prognosis in cerebral paralysis is grave in proportion to the depth and duration of the coma. Cheyne-Stokes respiration will always make the prognosis serious, and convulsions add greatly to the gravity. Acute bed-sores are also serious indications. Sudden elevation of temperature will make prognosis doubtful, and an attack, no matter how slight, implies probability of a recurrence. In favorable cases improvement will be manifest at the end of a week. Early contractures are not serious in their import, but contractures that occur about a month after the seizure are an evidence of a descending degeneration in the motor tract, and this usually means that no further improvement can be expected.

TREATMENT.

The preventive treatment of cerebral hemorrhage or thrombosis is the treatment of the arterial degeneration on which they both depend. The etiology of this is sometimes clear enough, and when it can be determined the treatment will suggest itself. I think the specific relations to arterial degeneration are sometimes overlooked. I am of the opinion that degenerations of arteries that are found in younger people, in the absence of interstitial nephritis, of very pronounced chronic alcoholism and tuberculosis, are specific and demand the use of mixed treatment to the maximum capacity of the individual. Those cases that do not have a specific history are much benefited by a course of chlorid of gold and sodium. This drug should be rubbed up dry with the pulverized resin of guaiac, put dry in a capsule, and administered before meals. Along with this there must be a proper attention to elimination by the skin, kidneys and bowels and due attention to the digestive function.

The treatment of the apoplexy depends on the diagnosis of the lesion. If you are sure that it is hemorrhage, reduce arterial tension, administer croton oil, thereby bleed the patient into his own abdominal vessels. Apply ice to the head; hot mustard plaster to the feet. If possible, tincture of aconite, frequently repeated, in full doses. Have the head of the bed raised. If you are sure the lesion is thrombosis, the treatment should be diametrically opposite. Increase arterial tension by strychnia and other cardiac tonics; avoid active purgation. In the great majority of cases the safe treatment will be characterized by a masterful inactivity. Quiet, warmth, cleanliness, position in bed to secure the best respiratory activity, due attention to the bladder and bowels are safe indications in every case.

With the disappearance of the apoplexy, attention should be given to the paralyzed muscles. Gentle massage and passive movements that will preserve the nutrition of the muscles are indicated from the beginning. The muscles in cerebral paralysis atrophy with rapidity sometimes; especially is this the case with the deltoid, and if the muscles are not maintained in a proper state of nutrition when the collateral edema already mentioned disappears function can not be reestablished. In my experience, this very important consideration is often overlooked. After about ten days mild faradic exercise of the muscles should be commenced and used every day. The séances should be short, remembering that it is easy to produce exhaustion in the muscles, thereby defeating the object of the treatment. Two or at most three contractions of each muscle or group of muscles at each séance is enough, and the least current that will produce this result should be used.

There is a difference of opinion as to the value of cerebral galvanization in these cases. For my own part, I am confident that a mild constant current of from two to five milliamperes, positive electrode to the head and negative to the nucha, for about five minutes daily, favors the disappearance of the edema and exudations and the retrograde changes that must take place in the pathologic focus. I, therefore, advise cerebral galvanization.

As soon as there is any appearance of returning voluntary power the patient should be encouraged to exercise it freely, and many failures in treatment result from a want of persistent effort in this direction. The moderate use of the iodids and of the easily assimilable preparations of phosphorus assist in bringing about the necessary nutritional changes in the brain and in maintaining the general health of the patient while the process of repair is going on.

Aphasia, a common symptom in right hemiplegias in right-handed persons, can often be greatly benefited by education. A few years ago a young man received a gunshot of the head, resulting in right hemiplegia and aphasia. Little by little the hemiplegia disappeared; the aphasia remained. His sister, under my instruction, began the work of re-educating him. I presumed the speech center on the left side of the brain was destroyed, and I think the excellent work she did after twelve months resulted in his being able to talk with very great facility was a consequence of an education of the center on the other side—the center of left-handed persons. But be it as it may, the result was a restoration of his speech capacity, and what was done in his case can be done in other cases by an earnest and persistent effort. I have almost succeeded recently in accomplishing the same result in a much older person after several months' earnest work by a wife and daughter. In this case there was a reacquisition not only of the speech capacity, but of the writing capacity, and when the person writes slowly he writes well; when he talks slowly and deliberately he articulates well.

I think we are very much disposed to neglect this educational feature in the treatment of cerebral paralysis.

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DOUBLING OF THE CARDIAC RHYTHM AND ITS RELATION TO PAROXYSMAL TACHYCARDIA.

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Paroxysmal tachycardia derives its name from the characteristic paroxysms of extremely rapid heart action that occur from time to time. These usually begin abruptly, last for minutes, days or weeks, and finally end almost as abruptly as they began. During the paroxysm the pulse rate ordinarily ranges between 180 and 300 a minute. At times the patient is hardly conscious of his condition. More frequently, however, he suffers from various cardiac symptoms, such as palpitation, dyspnea and painful or oppressive sensations in the precordium. In severe cases, well-marked signs of cardiac insufficiency, such as venous stasis and edema, may be present.

No adequate physiologic explanation of this form of tachycardia has been given. In many of its features it suggests a neurosis, yet attempts to produce a similar acceleration experimentally, either by stimulation of the accelerator or by division of the inhibitory nerves to the heart, have failed. Recent observations have thrown quite a new light on the nature of paroxysmal tachycardia and these new facts must hereafter find a place in any attempt at an explanation of this most remarkable affection. It has been demonstrated that, in a number of patients at least, there is an abrupt doubling of the heart rate at the beginning of the paroxysm of tachycardia, and that the return to the original rate is sometimes as abrupt as the onset.[1]

Considerable interest, therefore, is attached to the phenomenon of a doubling of the cardiac rhythm. The following case is reported partly because it adds another to an already interesting series of cases and partly because it serves to prove that a doubling of the pulse rate may occur, even though none of the clinical features of paroxysmal tachycardia are present. For permission to report this case I am indebted to Dr. J. O. Hirschfelder, in whose wards these observations were made.

Patient.—T. C., a 'longshoreman, aged 59, was admitted to the City and County Hospital of San Francisco, Sept. 27, 1905, his complaint being shortness of breath.

History.—His family history was negative. He had been a very healthy man up to the present illness; he denied venereal infection. He drinks regularly five or six whiskies and five or more glasses of beer daily. He chews and smokes to excess and is accustomed to very heavy labor.

Present Illness.—The patient felt well till seven months ago, at which time he first noticed some shortness of breath on exertion. This dyspnea gradually grew worse until finally it became continuous and so bad that he was compelled to assume the sitting posture at night in order to sleep. He has had some edema of the feet and legs. About one month ago his left pleural cavity was tapped and a large quantity of fluid withdrawn. He has an occasional cough, with slight yellowish expectoration. At times he has pains in the left side of his chest, made worse by coughing. For the past three weeks he has been passing unusually large quantities of urine, and his edema has practically disappeared. Occasionally he has slight headaches; there are no other serious symptoms.

Examination.—The patient is a well-developed but somewhat emaciated laboring man. Conjunctivæ are pale. Lips and fingernails are pale and cyanotic. Pupils are normal. There is a slight arcus senilis. Tongue and throat are negative. The chest is somewhat barrel-shaped. The lower right side moves somewhat better than the left. In the right interscapular region there is slight dullness, with increased fremitus and harsh expiration, but it is doubtful if these represent any more than the normal difference between the two sides. No râles could be heard.

Heart.—A diffuse pulsation is visible over the precordium, with the point of maximum impulse in the fourth intercostal space 8 cm. from the median line. There is a heaving impulse on palpation. The area of cardiac dullness begins above at the middle of the third rib and extends 8 cm. to the left of the median line and 3 cm. to the right. At the point of maximum impulse the first sound is well heard and clear; the second sound is faint and it is accompanied and followed by a faint blowing murmur. This diastolic murmur is heard over the whole of the precordium, being loudest in the third and fourth intercostal spaces near the sternum and very faint over the aortic area. During his stay in the hospital this murmur disappeared. Both second sounds are faint. The radial arteries are much thickened and slightly nodular. There was no collapsing character to the pulse even at a time when the diastolic murmur was well heard. There was no visible venous pulsation in the neck.

Abdomen.—The hepatic flatness begins at the upper border of the sixth rib and extends to the costal margin, the total vertical flatness being 10.5 cm. in the mammary line. The edge of liver could not be felt. Splenic dullness was not enlarged and the spleen could not be felt. The kidneys were not palpable. Pulsation of the abdominal aorta could easily be felt. Reflexes were normal.

Urine.—Specific gravity, 1.010; clear, neutral, amber, no albumin, no sugar; microscopically, a few hyalin and finely granular casts were seen.

The history of the patient was that of a man who had suffered from a gradually progressing and rather serious cardiac breakdown, with urgent dyspnea, general anasarca, and a left hydrothorax. At the time of admission he had partially recovered from this breakdown, and during his stay in the hospital he continued to improve until at the end of two months he was able to leave and to do light work. It is difficult to define the exact nature of his cardiac lesion. The faint diastolic murmur heard at the first examination was probably of but little importance, for had it denoted an aortic lesion of any severity the pulse would probably have shown a collapsing quality and the murmur would not have disappeared during his stay in the hospital. This murmur is probably to be classed among the functional diastolic murmurs, the most frequent of which are transmitted venous murmurs.[2] We have no reason to suspect a neurosis in this patient, for with a high grade of cardiac insufficiency he presented absolutely no neurotic stigmata and no abnormal cardiac sensations. By exclusion, therefore, we are led to diagnose a lesion of the heart muscle, which diagnosis is strengthened by the history of such etiologic factors as hard work, the abuse of alcohol and tobacco, and marked peripheral arteriosclerosis. No history of typical attacks of paroxysmal tachycardia could be obtained. The history was rather that of a gradually progressing cardiac breakdown followed by an equally gradual recovery. At no time did the pulse rate rise above 145 a minute.

During the examination of September 29 it was noticed that the heart rate as observed at the apex changed abruptly, according to the position of the patient, without his being in any way conscious of such a change.

1. A. Hoffmann: "Neuere Beobachtungen über Herzjagen." Deut. Arch. f. klin. Med., vol. lxxviii, p. 39; "Ueber Verdoppelung der Herzfrequenz nebst Bemerkungen zur Analyse der unregelmassigen Pulses," Zeits. f. klin. Med., vol. liii, p. 206. Lommel: "Ueber anfallsweise auftretende Verdoppelung der Herzfrequenz," Deut. Arch. f. klin. Med., vol. lxxxii, p. 495.

2. Cabot and Locke: Johns Hopkins Hospital Bulletin, May, 1903.

While lying flat on his back, the rate varied between 68 and 72 a minute, whereas when he sat up in bed it varied between 134 and 142. The ratio between the two was, therefore, approximately 1:2. Usually the pulse rate as felt at the wrist corresponded to the apex rate. Yet this was not always the case. At times, when the patient was sitting up, only half as many pulsations were palpable at the wrist as at the apex, for the reason that every other contraction of the heart failed to produce a palpable radial pulse. At such times palpation of the apex, as well as tracings taken from this region, revealed no difference either in time or character between the apex beats giving rise to radial pulsations and those failing to do so. By auscultation over the heart, however, it could be demonstrated that the second sounds were barely audible after those beats that produced no palpable radial pulses.

Having found that the heart rhythm altered with change of position, it remained to demonstrate this alteration by graphical methods. Unfortunately, a complete set of tracings were not made on this day; and, although the patient was under constant observation for two months subsequently, the same condition did not recur. Usually his pulse was absolutely regular, its rate varying between 60 and 90 a minute. At times, however, it became very irregular, partly owing to the occurrence of extra systoles and partly owing apparently to an irregular rate of stimulation. Two good tracings, illustrating the change from the fast to the slow rhythm, were obtained, both of them being practically identical. Figure 1 shows on the left the rapid rate, the average duration of beats being 2.26 fifths of a second (average taken of 26 beats). It shows on the right the slow rate with an average duration 4.46 fifths of a second per beat (average of 11 beats). The ratio between the two is almost precisely 1:2; in other words, the heart is beating twice as fast in the one as in the other. On the second tracing, not reproduced, the average duration of the short beats is 2.1 fifths of a second and of the long beats 4.1 fifths of a second. Here, again, the ratio is almost precisely 1:2. The normal pulse rate of this patient in bed, as shown by subsequent observations over a period of two months, lay between 60 and 90 a minute, i. e., the average duration of the pulse was 4.2 fifths of a second. We may assume, therefore, that the slower of the above rates represents the normal rate, and that the more rapid rate is caused by a doubling of the heart rhythm.

What physiologic explanation can be given for such a doubling of the pulse rate? According to Englemann, the activity of the heart may be affected in the following four ways: (1) The rate of stimulation may change; (2) the irritability of the heart muscle, its responsiveness to stimuli, may be altered; (3) the conduction of the stimuli from the mouths of the great veins to the apex of the heart may be affected, and (4) the contractile power of the muscle itself may be altered. How can a doubling of the cardiac rhythm be explained in accordance with this hypothesis of Englemann? At first thought one would be inclined to attribute the change in heart rate to an alteration in the rate of stimulation. A more exact analysis of these curves, as well as of those of other authors, fails, however, to support this supposition. In that case, we should expect no such sudden alteration of the pulse rate as is here present, but rather a gradually increasing rate, e. g., from 70 to 80, 90, etc., up to 140 and *vice versa*. A gradual transition of this character is observed after section of the vagi or after stimulation of the accelerator nerves. It occurs during exercise, excitement, etc. In all of these cases the more rapid heart rhythm is due to an increased rate of stimulation. In the class of cases under consideration no such gradual transition takes place. There is a sudden jump from the slow to the fast rhythm and the return from the fast to the slow is often equally abrupt, as it was in the present case. The only satisfactory explanation hitherto advanced for such an abrupt jump is that put forward by Hoffmann.[1] He assumes that in these patients, and possibly in normal persons as well, the heart is stimulated much more frequently than a study of its rate would seem to indicate, but that it does not contract with every stimulus. In the above patient, for example, we may assume that the heart constantly receives 140 stimuli each minute, but that in the recumbent position it responds only to every other stimulus and that consequently it beats at the rate of 70 a minute. When the patient sits up, the heart then responds to every stimulus and its rhythm changes abruptly from 70 to 140 a minute.

This failure of the heart to respond to every stimulus may be accounted for in three ways according to the Englemann hypothesis: (1) The irritability of the heart muscle, always lessened after a contraction, may not recover after one stimulus in time to respond to the next. The heart would then contract only with every other stimulus. (2) The contractile power of the heart muscle may be similarly slow in recovering with a similar halving of the heart rate. (3) Each stimulus may cause a contraction of the fibers about the mouths of the great veins, but this contraction may not be conducted to the remainder of the heart; in other words, there is a "blocking" of every other contraction wave high up in the auricle. It is difficult to decide in which of these ways the heart fails to respond to every stimulus.

The last or "block" theory derives considerable support from the fact that we may get a second doubling of the heart rhythm. Hoffmann, for example, has observed a pulse rate changing from 60 to 120 a minute and afterward from 120 to 240. If we assume that this heart normally receives 240 stimuli a minute and that its responsiveness to these stimuli gradually lessens, then we should expect that at first it would respond only to every other stimulus and that its rate would become 120 a minute. If, then, its irritability or its contractility were still further diminished, we should expect that it would respond to every third stimulus and that its rate consequently would become 80 a minute. Such a reduction may, indeed, occur, as happened in my own case (Fig. 2), but it appears to be rather exceptional and never of long duration. As a matter of fact, the rhythm drops from 120 to 60, instead of from 120 to 80. It is difficult, therefore, to explain a fourfolding of the rhythm on the theory that the heart muscle is lacking either in irritability or contractility.

The hypothesis of a "blocked" impulse will, however, explain this fourfolding of the rhythm in a very satisfactory manner. We need only assume that the impulse is blocked at two separate points, the one being situated below the other. At the first point every other beat is blocked and the rate is reduced from 240 to 120; at the second point every other beat that remains is again blocked and the rate is then reduced from 120 to 60 per

minute. Kries[3] has shown experimentally that a blocking of the cardiac wave of contraction between the auricle and the ventricle of a frog's heart, produced by artificial cooling, follows this same rule, the ratio between the auricular and the ventricular rhythms becoming 2:1, 4:1, 8:1, whereas the intermediate ratios such as 3:1, 5:1 are not obtained. Erlanger,[4] on the other hand, has shown for the mammalian heart that the 3:1 ratio may be produced experimentally, thereby proving that the 3:1 ratio is not inconsistent with a blocking. In view of these facts, therefore, it would seem that our best explanation of a doubling with subsequent fourfolding of the cardiac rhythm is that the heart is receiving a great number of stimuli, but that these are blocked at two successive points, one below the other.

In Figure 1 the rapid beats before the transition show a distinct tendency to vary regularly in size, smaller beats (b, d, f, h, j, l) alternating with larger ones

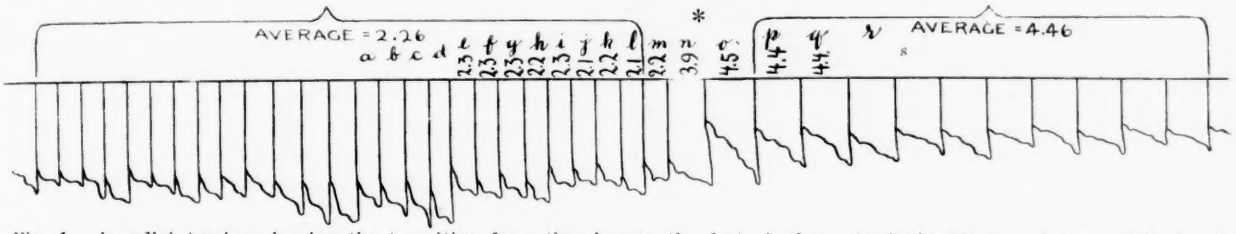

Fig. 1.—A radial tracing showing the transition from the slow to the fast rhythm. At * the interne who was listening to the heart exclaimed that its rhythm had changed. Time is marked in fifths of a second.

(a, c, e, g, i, k, m). This phenomenon has been demonstrated far more conclusively by Hoffmann and by Lommel. They observed a diminution in the size of alternate beats which progressed gradually until finally the smaller pulsations disappeared and a half rhythm was established. The transition from the slow to the fast rhythm may take an opposite course, i. e., small beats appear between the larger ones and gradually increase in size until all become equal and the rhythm is doubled. Such observations favor the second of the above explanations of the doubled rhythm, namely that the contractile power of the heart muscle is at fault. If this power to contract is not recovered quickly enough after a previous contraction, then every other beat may be omitted and the rhythm halved. As the power to contract gradually returns, we get beats of increasing size. So far as Figure 1 is concerned, it will be noticed that the first beat to disappear entirely would have belonged to the series of larger pulsations (it being the second beyond "m"). From this it would appear that the smaller beats are not necessarily the ones that disappear. In another tracing, showing a transition from the fast to the slow rhythm, an alternation in the size of the beats can also be made out just prior to the transition, but in this instance the smaller beats ultimately disappear. In neither case is there a gradual dying out of the smaller beats, as has been figured by Hoffmann and by Lommel. An alternation of small with large beats may even persist throughout the tachycardial attack, and I am inclined to offer this as an explanation of the fact that at times my patient's pulse seemed to be beating only half as fast as his heart. It is quite possible that the alternating small beat was not palpable at the wrist. Unfortunately, no tracings were taken at such a time.

Figure 2, a pulse tracing taken during the slow rhythm, shows one unusually long beat "z" interposed in what would otherwise be an absolutely regular rhythm. The length of this beat, 6.5 fifths of a second, is almost exactly one and a half times as long as the beats that precede and follow it (4.4 fifths of a second). Precisely similar lengthened beats, five in all, were discovered scattered through a number of other tracings. In all of these the lengthened beat was just half again as long as the ordinary slow beats about it. The cause of this peculiar relation between the length of these beats becomes clear if we recall the hypothesis advanced to explain the doubling of the heart rate. According to this hypothesis, the slow rate results from a failure of the heart to respond to every stimulus received. If now occasionally, instead of failing to respond to every other stimulus, it failed to respond to two in succession, then the length of the resulting long beat would be three times the length of the stimuli and one and a half times the length of those beats that represent two stimuli. These longer beats, therefore, lend strong confirmation to the hypothesis that this heart received a double number of stimuli during its slow rhythm.

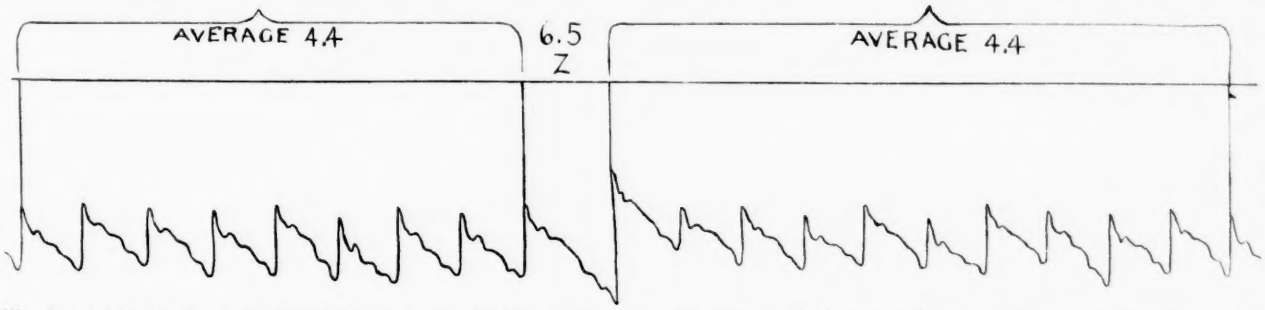

Fig. 2.—A long beat (z) interposed in the slow rhythm. Notice that its length, 6.5 fifths of a second, is one and a half times that of the other beats.

In Figure 1 it will be noticed that the first of the longer beats (n) has a duration of 3.9 fifths of a second, whereas the following beats average 4.46 fifths of a second. I am inclined to attribute this shortening, not to any change in the rate of stimulation, but to a difference in the rate of propagation from the auricles to the

3. v. Kries: "Ueber eine Art polyrhythmischer Herztätigkeit," Arch. f. Anat. u. Physiol., 1902, Physiol. Abteil.

4. "Vorläufige Mitteilung über die Physiologie des Herzblocks in Säugetieren," Zentralbl. f. Physiol., vol. xix, No. 1.

periphery. Hering[5] has shown that, in general, longer waves travel to the periphery more rapidly than do shorter waves. This difference in propagation may possibly take place either within the heart itself or in the peripheral arteries. At any rate it is sufficient to explain the shortening of "n."

The question naturally arises as to whether or not we should consider the acceleration in this patient's pulse as an attack of paroxysmal tachycardia. Unfortunately, it is impossible to answer this question with any degree of certainty. If we regard an extremely rapid heart action as a cardinal symptom of paroxysmal tachycardia, then our patient could not be placed in this class, for even in the attack his pulse did not exceed 145 beats a minute. It is difficult to maintain such arbitrary clinical standards, and we all know how greatly the mild forms of a disease may differ from the severe ones. In view of this difficulty, it seems justifiable, at least for the present, to pay more attention to the physiologic peculiarity, the doubling of the heart rhythm. So far as I know, no typical clinical instances of paroxysmal tachycardia have been reported in which such a doubling of the heart rate was proved to be absent. Furthermore, in one of Hoffmann's cases, the doubling of the pulse from 60 to 120 was followed by a second doubling to 240. Had this second doubling been omitted, one might have questioned the nature of the case; yet with the second doubling it became a typical paroxysmal tachycardia.

Whether paroxysmal tachycardia is to be regarded as a definite disease or whether it is merely a symptom-complex must remain undecided. The pathologic anatomy of the condition is still very uncertain. Many cases would appear to rest on a neurotic basis, this view being strengthened by the fact that not infrequently the paroxysm can be aborted by pressure on the pneumogastric nerve, by holding a deep inspiration, etc. On the other hand, coronary sclerosis may be present and it can seldom be excluded with any degree of certainty.[6] The patient here reported gave a typical clinical picture of myocardial disease. Quite possibly paroxysmal tachycardia is merely a symptom that may be produced by different causes, and anatomic changes in the heart muscle may or may not be present. Such also seems to be possible in several other forms of disturbed cardiac rhythm.

THE FORMATION OF URIC ACID.

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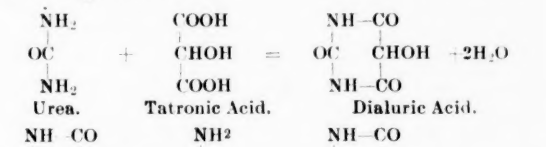
NEW HAVEN, CONN.

(*Concluded from Page 446.*)

THEORIES OF URIC-ACID SYNTHESIS.

Although most physiologists have adopted the theory of the formation of uric acid by an oxidative transformation of purins arising in intermediary metabolism, there is another possible mode of origin which can not be dismissed without due consideration. I refer to the direct synthesis of uric acid. That nucleic acid can be synthesized and the construction of the purin nucleus become possible in mammals is beyond question in the case of developing and growing animals living on a practically purin-free dietary.[20] That uric acid itself is formed by synthetic processes in birds is also verified beyond doubt. In mammals the end product of nitrogenous exchange is quite different, however. When the synthesis of uric acid had been accomplished in the laboratory repeated attempts were made to induce an analogous formation in animals. Horbaczewski's artificial synthesis from urea $\begin{matrix}NH_2\\|\\C\\|\\NH_2\end{matrix}$ and glycocoll $\begin{matrix}NH_2\\|\\CH_2\\|\\COOH\end{matrix}$ could not be imitated by feeding these compounds; and similar failure in man followed the administration of ammonium sarco-lactate $\begin{matrix}OH\\|\\C_2H_4\\|\\COONH_4\end{matrix}$ and urea which Minkowski found effective in producing uric-acid synthesis in birds.

It has been noted in a few cases that the ingestion of considerable quantities of non-nitrogenous foods like fats or sugars may be accompanied by an increased elimination of uric acid. To what extent the conditions for the elimination of uric acid have been modified under such circumstances can not be decided; at most the data admit of a twofold interpretation. The most successful advocate of the immediate synthesis of uric acid in mammals is Wiener,[21] who has pointed out the twofold source of uric acid in birds—the synthetic and oxidative production—and assumes a similar twofold possibility of formation in mammals under appropriate conditions. The suggestions arose from observations on isolated organs in extracts of which the addition of certain non-nitrogenous compounds, such as tartronic acid and dialuric acid, with and without urea led to an increased formation of uric acid *in vitro*. The theoretic possibilities involved in such a scheme are indicated by the following reactions:



In repeating these experiments of Wiener, Burian[22] has noted similar increase in uric-acid formation by tissue extracts in the presence of the non-nitrogenous salicylic, tartronic and dialuric acids. He has shown, however, that this is in no sense due to any synthetic participation by these compounds. When the extracts are devoid of purin compounds no increase in uric acid is observed; the part played by the non-nitrogenous compounds is that of accelerating the oxidation of the purins (xanthin) present. The oxidative mode of formation already explained applies equally well in these cases. We may therefore dismiss the supposed experimental evidence for the assumption of a partial synthetic origin of the uric acid eliminated by mammals.

Various authors[23] have called attention to a further possible genetic relation between the pyrimidin compounds (represented by certain decomposition fragments like thymin, uracil and cytosin of nucleic acids) and uric acid; and from another aspect Knoop and Wind-

5. "Ueber kontinuierliche Herzbigeminie," Deut. Arch. f. klin. Med., vol. lxxix, p. 182.

6. Romberg: Herzkrankheiten, p. 940.

20. Cf. Miescher: Arch. f. Exper. Path. u. Pharmak., vol. xxxvii, p. 100; Kossel: Zeitft. f. Physiol., Chemie, 1885, vol. x, p. 248; Burian and Schur: Ibid., 1897, vol. xxxiii, p. 55.

21. Wiener: Ergebnisse d. Physiol., 1902, vol. i, 1, p. 606; Hofmeister's Beitr. z. Chem. Physiol., 1902, vol. ii, p. 42.

22. Burian: Zeitft. f. Physiol. Chemie, 1905, vol. xliii, p. 497.

23. Cf. Kossel and Steudel: Ibid., 1903, vol. xxxviii, p. 58; also vol. xxxix, p. 136.

haus,[24] having obtained methyl imidazol by the action of ammonia on sugar, point out the relation of this compound to the purin nucleus. Such speculations, devoid of all experimental support, are at present of interest only in pointing out the possible roads to a synthesis of uric acid within the body.

Unmindful of the direct evidence of purin oxidation afforded by the enzyme experiments with tissue extracts and emphasizing the difficulty of obtaining uric acid directly from purins in the laboratory with the intervention of animal factors, Kutscher and Seemann[25] have ventured another explanation according to which uric acid is the primary product, formed by such synthetic reactions as have just been detailed. A part is in turn reduced, according to Kutscher and Seemann, to simpler purins which participate in the genesis of nucleins in the body; the excess of synthetized uric acid is then either eliminated or destroyed in the usual manner. On this hypothesis the feeding of purins would give rise to increased uric-acid elimination by sparing the synthetic uric acid from reduction, etc., to form nucleic acid and thus inducing a certain excess of it in the system. Experimental evidence of such reduction changes of uric acid to simpler purins is entirely wanting. The capacity of the organism to oxidize purin bases to uric acid, as evidenced by feeding experiments and trials with tissue extracts, remains as the single indisputable fact advanced beyond the realm of hypothesis.

ENDOGENOUS AND EXOGENOUS PURINS.

On a diet free from nucleoproteids and purins, as well as in starvation, the elimination of uric acid and other purin bases does not cease by any means. Under such conditions some metabolic change like the destruction of tissue nucleoproteid must supply the purin nucleus for the eliminated product.

Burian and Schur[26] have designated that fraction of the purin output which is independent of ingested purin groups as endogenous in contrast with the exogenous elimination referable to preformed purin complexes in the intakes. They note that on a purin-free diet consisting of such foods as milk, eggs, cheese, potato, rice, green vegetables, wheat bread, butter and sugar, the endogenous uric-acid output is a rather constant quantity for any individual under fixed conditions of living and is practically independent of the total proteid or energy content of the diet. With this the observations of Sivén[27] are in accord. The constants of endogenous purin output vary considerably for different individuals, however, as is shown by additional studies of my co-workers, especially Rockwood,[28] and by Kaufmann and Mohr.[29] This conception of the different sources of the uric acid eliminated and the determinable endogenous constancy of the individual has been helpful in the study of purin metabolism in both the laboratory and the clinic. For it has enabled the tolerance, or degree of utilization and elimination of purins to be determined with quantitative precision, by estimation of the exogenous uric acid derived from diets of known composition.

24. Knoop and Windhaus: Hofmeister's Beitr. z. Chem. Physiol., 1905, vol. vi, p. 392.

25. Kutscher and Seemann: Centlbl. f. Physiol., 1903, vol. xvii, p. 715.

26. Burian and Schur: Pflüger's Arch., 1900, vol. lxxx, p. 269.

27. Sivén: Skandinavisches Arch. f. Physiol., 1901, vol. xi, p. 123.

28. Rockwood: Amer. Jour. of Physiol., 1904, vol. xii, p. 38.

29. Kaufmann and Mohr: Deutsches Arch. f. klin. Med., 1902, vol. lxxiv, pp. 141, 348.

Recent experiments by Folin[30] and von Wendt,[31] as well as unpublished observations of my own,[32] indicate that the final word regarding the endogenous purin metabolism has not been spoken. When the total amount of protein metabolism is greatly reduced the endogenous output of uric acid is diminished, though this is not the case within ordinary ranges of diet.

URIC ACID AND MUSCULAR METABOLISM.

Some explanation of these discrepancies may be expected in the near future, especially since Burian[33] has lately identified in the muscle purins, notably hypoxanthin, the source of endogenous purins eliminated. He has found that during activity the purin-content of a surviving muscle is increased; and that in the perfusion of muscular parts the circulating fluid carries away uric acid from the muscle both in rest and during contraction. The effective factors thus are the continual accumulation of purins (hypoxanthin) in the muscles, an enzymatic production of uric acid therefrom by the localized xanthin oxidase of the muscle cells and its continuous removal by the blood current. By work the output of uric acid is temporarily increased, though it becomes equalized again in the course of the usual 24 hour period so that an effect of muscular activity on uric acid elimination measured in the daily output has generally been overlooked.

As a tentative hypothesis the conclusion of Burian may be quoted: "From a quantitative point of view the participation of the metabolism of muscles in the formation of endogenous urinary purins in man is probably large. This is made evident, for example, by the fact that the (hourly) endogenous purin output during a condition of muscle fatigue, i. e., presumably diminished hypoxanthin formation in muscle, is sometimes reduced one-half. Obviously only a very small portion of the endogenous urinary purins is derived from the nucleoproteids of disintegrated cells, whereas a very considerable part arises from muscular metabolism. This mode of origin also well explains the behavior of the 24-hour endogenous urinary purin elimination, namely, that it is constant in a single individual even after marked variations in the food intake, provided that the habits of life are reasonably uniform; whereas in different individuals, especially if their musculature is of unlike development, the output may be quite unlike."[34]

Herein may lie the explanation of the differences in hourly output of endogenous uric acid in the day time and at night. In the later case, during muscular rest, it is always lower, as shown in the following data by Rockwood from a subject living on a fixed purin-free diet. The constancy of the total daily uric acid output is likewise evident.

THE ELIMINATION OF ENDOGENOUS URIC ACID.

The daily diet consisted of:

Milk	1,350 c.c.
"Force"	35 gms.
Cream	50 gms.
Sugar	20 gms.
Oyster crackers	250 gms.
Cheese	30 gms.
Eggs	96 gms.
Apple	90 gms.
Wheat bread	25 gms.
Butter	15 gms.
Estimated fuel value	2,770 calories.

30. Folin: Amer. Jour. of Physiol., 1905, vol. xiii, p. 86.

31. von Wendt: Skandinav. Arch. f. Physiol., 1905, vol. xvii, p. 231.

32. On the output of uric acid in man during prolonged starvation.

33. Burian: Zeitft. f. Physiol. Chemie, 1905, vol. xliii, p. 532.

34. Burian: Loc. cit., pp. 544-545.

COMPOSITION OF THE URINE.

Day.	Day Urine, per Hour.			Night Urine, per Hr.			Total Urine.		
	Nitrogen. gm.	Uric Acid. gm.	P_2O_5. gm.	Nitrogen. gm.	Uric Acid. gm.	P_2O_5. gm.	Nitrogen. gm.	Uric Acid. gm.	P_2O_5. gm.
1. . . .	0.485	0.0138	0.092	0.512	0.0106	0.090	11.87	0.303	2.20
2. . . .	0.572	0.0161	0.108	0.458	0.0089	0.085	12.70	0.321	2.39
3. . . .	0.521	0.0135	0.109	0.532	0.0095	0.106	12.60	0.289	2.59
4. . . .	0.535	0.0148	0.110	0.499	0.0104	0.089	12.48	0.311	2.42
5. . . .	0.543	0.0143	0.115	0.564	0.0124	0.090	13.23	0.325	2.63
6. . . .	0.540	0.0145	0.111	0.530	0.0117	0.102	12.87	0.323	2.57
7. . . .	0.546	0.0156	0.109	0.530	0.0113	0.098	12.96	0.336	2.52
8. . . .	0.537	0.0142	0.111	0.519	0.0090	0.101	12.72	0.294	2.57
Daily av'rage	**0.535**	**0.0146**	**0.108**	**0.518**	**0.0105**	**0.095**	**12.68**	**0.313**	**2.49**

SEAT OF URIC ACID FORMATION.

Next in importance to an adequate appreciation of the chemical process by which uric acid originates in metabolism is the recognition of the place where its formation occurs in the organism. Various considerations have been brought to bear on the solution of this question, complicated as it is now known to be by the occurrence of formative and destructive changes simultaneously. Some of the older modes of attacking the problems are readily seen to be fallacious. For example, the fact of the relative abundance of uric acid in particular organs can not properly be explained by any immediate formation of the compound in those tissues, since the result noted may merely be the expression of a temporary deposition in that organ.

The spleen is still regarded in many text-books as an important factor in the production of uric acid, doubtless owing to the original observation by Horbaczewski on the occurrence of this substance in spleen pulp. The observations of Jackson and myself[35] on splenectomized animals, and of Gibson and myself[36] on a splenectomized man, have shown that the spleen by no means plays a preëminent rôle in purin metabolism, since both exogenous and endogenous uric acid excretion proceeds undiminished in the absence of that organ. In birds the importance of the liver for the synthesis of uric acid has been exhibited beyond question; but it does not assume an equally significant position in mammals, for a considerable excretion of uric acid continues in animals in which the liver is excluded from the circulation by an Eck fistula.

In the classic observations of Hahn, Massen, Nencki and Pawlow[37] the output of uric acid was, if anything, found increased after exclusion of the liver—a result corresponding with my own unpublished experiments on various pathologic manifestations of the liver as obtained in the clinic or experimentally induced in animals.[38]

Experience of this character has long brought the conviction to me that uric acid is formed in various parts of the body—the muscular tissue being prominently suggested—and that the exceptionally large quantities eliminated when the hepatic functions are impaired may be the expression of a deficient destruction of the uric acid formed throughout the body in intermediary metabolism and ordinarily in large part further disintegrated in the liver. The most satisfactory further evidence of the probable unlocalized genesis of uric acid in mammals is afforded by the significant widespread distribution of the enzymes affecting purin metabolism.

Summarizing[39] once more the newer observations it appears that especially the spleen, lungs, liver, intestine, muscle and kidney (in some animals at least), are all capable of converting purin bases into uric acid; and that the kidney, muscle and liver can, in turn, further disintegrate the newly formed uric acid—a reaction not accomplished by the spleen or lung. Guanin is first converted into xanthin which is then oxidized to uric acid; while adenin is first transformed into hypoxanthin from which xanthin subsequently arises. An abundant supply of oxygen is essential in every case for the change to uric acid and the catalog of effective or inactive organs is presumably not yet complete. Uric acid formation and destruction by no means always proceed together. The uricolytic or destructive ferment is doubtless principally confined to a few distinct organs, especially the kidney and liver. Differences in the distribution of these active agents unquestionably occur in different species; and the possibility of an elimination, acceleration or retardation of these enzymatic processes by disease or the action of drugs suggests many new problems. At any rate, the newer chemical studies have at length greatly enlarged the horizon of this field of investigation.

RATE OF URIC ACID FORMATION.

The only approach to determining the rate of uric acid formation in man at present consists in observing the rate of elimination—a method the uncertain significance of which has already been pointed out.

Nevertheless, bearing in mind the indefiniteness of the conclusions afforded, it is interesting to note that the curve of endogenous uric acid output from hour to hour tends to attain a level with some slight rise, perhaps, in the morning hours. This has been shown by Dr. E. W. Brown and myself in unpublished experiments, by Pfeil,[40] by Soetbeer,[41] and by Beebe.[42]

After purin-containing meals an increased hourly output of uric acid is induced in a comparatively short period, giving rise to a typical curve for the individual. Soetbeer has made the interesting observation that in arthritis urica, the typical curve of elimination after purin-containing meals (meat) may show great irregularity in contrast with that obtained from healthy persons. The typical postprandial rise in uric acid output may, for example, be delayed or missed altogether.

These facts suggest a new method of study applicable to some of the problems of the uric acid diathesis. The influence of drugs like alcohol is brought out in characteristic form by a study of the hourly elimination of uric acid. When no meal is taken even large doses of alcohol fail to produce a marked effect on the hourly

Hour.	Urine Volume. c.c.	Uric Acid. mgm.
7–8	57	30.4
8–9	84	33.0
9–10	110	31.5
10–11*	**465**	26.5
11–12	**565**	29.2
12–1	57	27.8
1–2	35	28.8
2–3	30	24.0
3–4	20	20.8

* Alcohol taken at 10 a. m.

35. Mendel and Jackson: Amer. Jour. of Physiol., 1900, vol. iv, p. 163.

36. Mendel and Gibson: Ibid., 1904, vol. x, p. xxix.

37. Hahn, Massen, Nencki and Pawlow: Arch. f. Experimentelle Path. u. Pharmak., 1892, vol. xxxii, p. 161; also M. Nencki: "Opera Omnia," vol. ii, p. 314.

38. Cf. Mendel and Jackson: Loc. cit., Table IV.

39. In what follows I have referred freely to the recently published résumé of the researches of Schittenhelm: Zeitft. f. Physiol. Chemie, 1905, vol. xlv, p. 146.

40. Pfeil: Zeitft. f. Physiol. Chemie, 1903, vol. xl, p. 1.

41. Soetbeer: Ibid., p. 25.

42. Beebe: Amer. Jour. of Physiol., 1904, vol. xii, p. 15.

elimination, despite the diuresis which they incite. This is well shown in the folowing table from Beebe:[43]

The postprandial rise in uric acid elimination is, however, greatly exaggerated by ingestion of alcohol, especially when a meal rich in purin constituents is taken. The contrast is seen in the following averages compiled from many comparable results by Beebe:[44]

Control Day.		Alcohol Day.
Hour.	Uric Acid. mgm.	Uric Acid. mgm.
9	18.9	19.0
10	15.7	16.3
11	17.1	16.4
12*	16.1	14.4
1	12.8	16.2
2	15.6	19.5
3	19.3	25.7
4	23.6	28.3
5	24.8	34.2
6	25.5	28.8

Residue of Twenty-four Hours.

Control Day.		Alcohol Day.	
Uric acid	338 mgm.	Uric acid	442 mgm.

* Meal hour.

Evidently the purin metabolism is noticeably modified by the alcohol absorbed. Bearing in mind the twofold action—uric acid formation and destruction—which the tissues are capable of, Beebe has interpreted his results to indicate an inhibition of the destructive (uricolytic) phase. The fragmentary data regarding the rate of uric acid elimination have been briefly referred to in this place in order to indicate some of the newer procedures which are being brought to bear on the production of uric acid in health and disease. They contribute little new to the problems with which we have been more directly concerned.

FUTURE PROBLEMS.

Thus I have attempted to subject to a somewhat critical review the more recent experimental observations which should contribute to a better understanding of the formation of uric acid in the body. Its probable endogenous and exogenous antecedents have been considered and the probable chemical reactions involved in the genesis of uric acid from other purin compounds have been detailed. Attention has also been directed to the peculiar rôle of enzymes in both the formation and destruction of uric acid; the organs and tissues concerned, as well as the factors modifying these metabolic changes, have been considered. After all, a résumé serves its best purpose in enabling the scientist to appreciate the limitations of his methods and to learn the true worth of his data, so that from time to time he may formulate his problems more precisely. He thus starts anew in his quest of the truth with better defined aims and a consequent renewal of enthusiasm.

Research brings forth questions as well as answers. The patient reader will have discovered many gaps in the chain of uric acid metabolism, where the missing links remain to be discovered. We assuredly need to know more about the origin and significance of endogenous uric acid. How and why is it modified in such physiologic states as starvation, in growth and in disease—in conditions where "the metabolic processes that determine the uric acid excretion may be said to be in a relatively unstable equilibrium?" What interpretation shall be given to variations in the endogenous output; and what is the tolerance of the body for purins in diverse conditions? What determines the balance between formation and destruction of uric acid and how do the different tissues participate in its chemical regulation? Are the differences in the purin metabolism of unlike species explicable by qualitative or quantitative considerations? These and many other inquiries at once present themselves; and the patent limitations of our knowledge stimulate the investigator to renewed efforts and awaken his interest.

43. Beebe: Loc. cit., p. 20.
44. Beebe: Loc. cit., p. 30.

TREATMENT OF APPENDICITIS IN ITS VARIOUS STAGES AS IT COMES TO THE SURGEON.*

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So much has been written and spoken on this subject in the last decade that one might suppose that all had been learned as to its management, but the wide diversion of opinion between the surgeon and internist as to its treatment in general, and the different views maintained by surgeons themselves as to the management of the different stages when encountered, would indicate that many questions are as yet to be settled before the happy mean is reached.

STAGES OF THE DISEASE.

For the convenience of discussion I have divided appendicitis into six arbitrary stages, with very liberal lines of demarcation, as follows: First, inceptive stage, first forty-eight hours; second, rapidly progressing stage, third, fourth and fifth days; third, non-progressing or stationary stage; fourth, interval or chronic stage; fifth, the abscess stage; sixth, the diffuse peritonitis stage.

Before taking up the various stages of appendicitis which I have outlined for my own convenience in dealing with the subject, I believe I am warranted in stating that there exists general satisfaction on the part of surgeons in the gradual and growing realization, both on the part of the general practitioner and of the laity, that appendicitis is strictly a surgical disease and demands surgical treatment at all times at properly selected periods of that time.

This surgical dictum, when first enunciated by surgeons some years ago, met with rather positive resistance on the part of the internist, but with the turning on of the light by operative measures and the exemplification of the true pathology of this affection, error, as it always must, has yielded to the truth, until to-day every educated and up-to-date practitioner admits that therapeutics has no place in the cure of this disease.

First: The Inceptive Stage (first forty-eight hours).—All surgeons are convinced and many internists admit that every patient with appendicitis that comes to a capable physician with proper environment within the first forty-eight hours of the disease should have and is entitled to a curative procedure which will secure for him restoration to health with the least risk of life. The not infrequent experience of every surgeon in encountering the most advanced pathology, a perforated and gangrenous appendix, even in the first or second day, argues the danger of throwing away the opportunity of certainty for one of uncertainty and great hazard to life.

* Read before the Western Surgical and Gynecological Association at Kansas City.

If clinicians could more often observe the pathology at the operating table, in all its intensity, in some of the mild cases, and in other cases of pronounced symptoms see a pathology limited to the appendix alone and with almost a doubt as to its departure from normal, they would grow more tolerant to operative measures and less wedded to therapeutics in the inceptive stage.

The physician or the surgeon who persuades a patient in the inceptive stage to wait for the interval assumes a responsibility wholly unwarranted, for the interval stage by no means comes to all; in some, opportunity has knocked and, unadmitted, has gone never to return.

Certainly the physician and surgeon have a common interest in saving the life of the patient, and the study by each of the pathology at the operating table must tend to a mutual conclusion as to the proper management of this disease in its various pathologic stages. This common study, we believe, is gradually growing toward, and will eventuate in, a universal professional belief that all patients with appendicitis if possible should be operated on, if seen by the surgeon, during the first thirty-six or forty-eight hours. The failure to make a diagnosis on the part of the practitioner and the refusal of the family and patient to listen to a reasonable demand for operative measures in the inceptive stage are responsible for almost all the factors entering into the mortality of appendicitis.

Second: The Rapidly Progressing Stage (third, fourth or fifth day).—The stand taken by a few surgeons that the appendix should be removed regardless of the stage of involvement is not in harmony with pathologic process known to be present at certain times of the disease. This is the stage in which experience and experiment have demonstrated that operative measures increase rather than lessen the mortality. It is in this stage that Ochsner enunciated a sound surgical principle: lavage and peristaltic rest by rectal feeding. The facts of its misconception and of its misapplication on the part of the medical profession in general by no means disproves the correctness of his theory. The probably enforced admission that this procedure has resulted in greater harm than good, probably increased the mortality of appendicitis in general in its first years of promulgation, by no means argues its nullification in eventually proving a life-saving procedure. The seizure of this treatment by the opponents to the surgical treatment of appendicitis in general in its application to all cases has proved a curse to humanity and a set-back to the advancement of proper surgical treatment of the disease.

That a better understanding and better education will confine its application to the class of cases intended by the author we believe to be a certainty. That the rapid attacks on Ochsner by some surgeons have been actuated by the commercial sting in the misapplication of his theory by the general practitioner and an apparent lessened number of patients for surgical aid rather than the real scientific difference with him is plausible to a competent and unbiased observer. The admitted honesty of Ochsner, the extensiveness of his clinic for a number of years and the verification of his experience by a large number of other surgeons should be convincing evidence of the correctness of his theory, even if the critic has not the fairness to admit or the clinical material necessary to prove it in his own work.

Operation in this stage usually means rapid extension of the sepsis and death; peristaltic rest means a limitation of the lesion and a day most favorable for surgical intervention. That the duration of this rest period may and is often extended too long is the belief of many surgeons.

Not infrequently cases come to us from the general practitioner with the remark, "I put this patient on the Ochsner treatment; he improved for a time and then had a relapse."

There is a time when Nature totters under her burden and a leak takes place in her fortification, and the case extends into the general peritonitis stage unless the surgeon comes to her rescue at the proper time. Experience and good judgment must decide the time limit in these cases. The extreme position taken by Ochsner in the early promulgation of his treatment by waiting two, three or four weeks I believe to be unnecessary, as Nature will have done all the good in her power in from ten to twenty days.

Third: The Non-Progressive or Subsiding Stage.—Not infrequently an appendicular disease comes to the surgeon with all the symptoms and physical evidence of a subsidence. Reason would indicate that Nature in this case had mastered the situation for the time and would lead to a period of safety if judicially assisted by rest and a guarded diet. Experience has fully convinced the conservative surgeon to keep hands off and to let these cases drift into the interval period. In these cases the disease seldom shows a tendency to relight into active progress unless the quietude is disturbed by injudicious dietetic measures or ignorant therapeutic applications.

Fourth: The Interval Stage.—This is the stage for self-congratulation for the one who reaches it—an unpromised but fortunate entrance on *terra firma* in the march of appendicular inflammation. This is the stage of sanguine hopes, splendid promises, ideal surgery and happy culmination by surgical operation. If the ideal management of appendicitis were possible, this stage would never be reached. If the surgeon could see all the cases in the inceptive stage there would be no interval stage, there would be no abscess stage, there would be no peritonitis stage and comparatively few fatal stages, but until the family physician the world over follows the lead of such men and internists as Billings, Fitz and Biggs, who favor and teach early operations, surgeons will have to continue to battle against the desperate stages with their uncertain termination.

Fifth: The Abscess Stage.—The patency of an abscess in the right side of the abdomen is convincing evidence to patient, friends and family physician that surgical interference is indicative and imperative. It has been proved within the last two years that the only way of elimination of the appendix from the abdomen is by excision, hence the explosion of the old theory that the appendix sloughed and came away with the pus and *débris* from an incised and drained appendicular abscess. Recurrence after simple incision, necessitating reoperation and the invariable presence of the original offending organ, has convinced surgeons that to cure appendicitis the appendix must be removed. Another observation worthy of note is the attachment of the appendix in all cases at the line of original incision.

Radical operators like Deaver and his followers, acting on the established fact that cure means removal, advocated and claimed to practice separation of the adhesions and removal of the offending organ in all cases with a low-rate mortality; this procedure, however, has been received with considerable doubt. Many surgeons following the teachings of Deaver, by reason of a large mortality, have been compelled to abandon this radical procedure and many others have never seen their way clear to follow it, but have been content with the simple drainage. Those more conservative and possibly more conscientious practitioners believe in two safe rather

than one dangerous operation in abscess cases. I believe that in all cases of appendicular abscess patients should be told that the first operation is only a preparatory measure for the removal of the appendix at a period not further distant than from five to eight weeks.

Sixth: Stage of Diffuse Peritonitis.—In the past two years greater advancement has been made in the treatment of patients in this than in any other stage. Prior to this time surgeons in general took a pessimistic view of the possible benefits of operative measures, regarding these cases as beyond hope, no matter what the treatment. We now call these cases diffuse or general peritonitis in contradistinction to those in which the patients are moribund. Operation here is left to the fee-grabber or to ignorant men whose work is a discredit to surgery. The simple application of the natural laws of drainage as advocated by Fowler—that is, keeping the patient in the sitting posture—gave surgeons the cue as to the rational efficacy of operative measures in this particular stage of appendicular disease. Trustworthy reported results of a few surgeons invited trial by surgeons in general, and this gave convincing evidence of the better results that may be attained by more perfected technic in this desperate class of cases. The debatable question here is not operation or non-operation, but the rudeness or tenderness of the aid offered. Shall we simply incise and effectively drain the dependent cavities, or shall we go further and attempt to flush out the offending débris? An investigation of the advocated method shows about an equal division on the part of operators for flushing and non-flushing. In the absence of reliable statistics and confirmation of the greater merits of either method, the individual judgment and experience of each operator must decide whether it is best to foster, to protect and to assist Nature, or by rough fingers to tear away the fibrous exudate and to wash septic material over an unsoiled territory. A limited experience and the careful consideration of the pathologic condition found in this stage leads me to believe that the least manipulation possible means the least mortality.

Medical men, as a rule, believe in the diluting and neutralizing effect of a serous exudate on the toxins of infection and admit that further dilution by salt water may prove beneficial; but why inflict greater trauma to an already wounded peritoneum by flushing when there is an innocent and equally beneficial route of dilution by the application through healthy avenues of absorption? We all realize the circumscribing fraction of a fibrous exudate; why tear down the protecting wall to toxin invasion?

SUMMARY.

I believe, with the mind open for conviction and liable to complete reversal by future advancement, that:

First.—Appendicitis is always a surgical disease.

Second.—Every patient should have and is entitled to operative measures within the first forty-eight hours.

Third.—The rapidly progressing stage is the stage of applicability of the Ochsner treatment, and this offers the lowest mortality.

Fourth.—Cases coming to the surgeon with evidence of gradually subsiding symptoms, should be deferred to a more favorable operative period.

Fifth.—Operation should be urged in every interval or chronic case.

Sixth.—In abscess cases two safe rather than one hazardous operation should be done.

Seventh.—In diffuse peritonitis all dependent cavities should be carefully incised and drained and not flushed, and, secondarily, the offending organ should be removed.

A METHOD FOR THE CORRECTION OF CICATRICIAL TALIPES CALCANEUS.*

A. F. JONAS, M.D.
OMAHA.

The method for the correction of some forms of old talipes calcaneus is illustrated by the two following cases:

CASE 1.—*History.*—A. B., aged 20, when 4 years of age had the dorsum of the right foot and the lower third of the anterior aspect of the leg severely scalded, producing a sloughing of the skin from the entire burned area. The resulting wound was a long time in healing, which was accomplished by granulation, ending in a dense mass of cicatricial tissues, which in contracting produced an extreme dorsal flexion. After the lapse of several years two different attempts were made to correct the deformity by making a transverse incision, dividing all the soft structures down to the tibio-tarsal joint. The foot was brought down to its normal position. The separation of the wound margins was so great as to produce a large, gaping defect over the dorsum of the foot. In spite of the attempt made to maintain a corrected position of the foot by means of variously constructed devices, the deformity recurred as soon as the operative defect closed over, which it only could do by a process of granulation and cicatricial contraction.

Examination.—At the time of his admission to the hospital the following condition was noted: The right foot was in extreme dorsal flexion and very moderate varus position. The dorsum pedis was nearly in contact with the anterior aspect of

Fig. 1. Fig. 2. Fig. 3.

the leg and was held in this position by a thick, dense mass of scar tissue, which seemed intimately adherent to the tibia and the tarsus and metatarsus of the foot. The heel was drawn down so that the os calcis occupied a vertical position and the superincumbent weight was borne on the end of the bone. The posterior portion of the articular surface of the astragalus could be felt under the tendo Achilles. In fact, the backward pressure of the astragalus was indicated by an elevation, making a visible posterior projection against the tendo Achilles. The foot was rigid in the extreme; dorsal or plantar flexion could be made only to the slightest degree. The phalanges were limp and could neither be voluntarily flexed or extended. The deformity was due entirely to a dense cicatricial mass, involving the skin and all the soft structures and including the periosteum to which it was attached. This scar tissue involved an area beginning at the junction of lower in middle tibial third, surrounding nearly one-half of the leg and extending downward to the middle portion of the metatarsus.

Treatment.—After the usual preparation of the operative field the following procedure was adopted: It was evident that a flap must be constructed to cover at least the greater part of the resulting tissue defect, which seemed unavoidable in severing the constricted structures. A pedicle flap, to be turned or twisted so as to fit over the resulting defect in this avascularized tissue, was out of the question. It was evident that a flap with a broad attachment was necessary. The only one available was a triangular flap, so constructed as to cover the tibia astragaloid joint when it should be opened, as it must be, where the scar tissue reached down to and involved the entire

* Read before the Western Surgical and Gynecological Association at Kansas City.

thickness of the joint capsule. Accordingly an incision was made, beginning at the upper end of the scar tissue and extending obliquely downward and outward to the lower end of the outer malleolus (Fig. 1). Another incision was made, beginning as before, but extending downward and inward to the lower end of the inner malleolus. The skin was now seized at the upper end of the incisions and was dissected, including all the tissues, to the periosteum, downward and below the tibio-astragaloid joint, creating a triangular flap. The remaining resisting structures over the joint were divided, and with little difficulty the foot could be forced into its normal position. The triangular flap, which was stiff, projected away from the ankle joint like an elongated slipper flap and could not be pressed against the tibial surface nor the joint (Fig. 2). It having become apparent that our flap would be useless unless it could be pushed upward and against the open tibio-astragaloid joint, a transverse incision was made over the middle portion of the metatarsus, beginning over the middle part of the first metatarsal and continuing across the foot to the same point on the fifth metatarsal bone. The integument was now dissected from the bones so that the entire flap could be lifted except by its lateral ends, which made it a double-pedicle flap. The flap could now be easily pushed upward so that it completely covered the tibio-astragaloid joint, leaving only an inverted V-shaped defect above and a small elliptical wound below (Fig. 3). The wound was now dressed with an aseptic dressing and fixed on a Volkmann posterior tin splint. Every portion of the flap healed. About ten days later, when the uncovered portions of the wound had become filled with granulations, a transplantation of Thiersch flaps was made, which very soon completed the healing process. The outcome has been a useful foot with no recurrence of the deformity.

The foregoing method, which is simple and not difficult to do nor a new one, was suggested by a similar procedure in a case of exaggerated talipes calcaneus of congenital origin which came under my care some years previously.

CASE 2.—*History.*—The case was that of a boy, aged 14. The heel was pointed directly downward, the super-imposed weight was borne on the end of the os calcis. The foot was in extreme dorsal flexion and appeared more like an abnormal appendage than a foot. The contracture of the soft parts on the anterior aspect of the leg was extreme. Efforts at manual correction were entirely ineffectual.

Treatment.—It was determined, under general anesthesia, to do a subcutaneous tenotomy on the unyielding tendons. Accordingly, after the usual preliminary preparations, a subcutaneous section was made of the tibialis anticus, the extensor proprius hallucis, the extensor longus digitorum and the peroneus tertius. This seemed to relieve all the resisting structures except the skin. In attempting to correct the malposition the integument at the tibio-dorso-pedal junction would not yield and, wishing to avoid a skin laceration, a triangular flap with its point upward was dissected away from the anterior tibial aspect, and, reaching downward to an imaginary line extending from one malleolar tip to the other, exposing the ankle joint. The foot was now easily brought into its normal position. This covered the joint completely and extended to a considerable distance above it. An inverted V-shaped defect was created along the lines of incision. This defect was covered one week later with thick Thiersch flaps.

The idea of the use of a triangular flap to correct deformities due to cicatricial or atrophic skin is not new. The possibilities of its use have probably not been fully realized. Experience has long ago demonstrated the uselessness of the transverse incision of the contracted skin. Nothing can be expected of such a procedure, except a speedy recurrence of the deformity by the formation of new scar tissue in the resulting gap. If a triangular flap of sufficient length be created that will not only completely cover the affected joint, but extend a considerable distance above it and then cover with thick Thiersch flaps the resulting V-shaped defect, we may confidently expect a permanent correction of the deformity. The flap should be long enough. Its point should begin no lower down than the junction of its lower and middle third, and I can imagine cases where it may be advisable to begin the incision over the middle of the tibia. The flap must be long enough so that an elastic covering lies over the tibio-tarsal joint.

The fear that such a flap may slough is not borne out in practice. It is true we sever the return circulation in the skin. We were fearful of such a result in our first attempt and again in our second case, which possessed the additional defect of being illy supplied with blood vessels on account of the cicatricial nature of the flap. In neither case did any part of the flap slough. When the flap is elastic and pliable, as it usually is in non-cicatricial skin, the V-shaped incision is sufficient.

When, however, the flap is cicatricial, stiff and unyielding and will not cover the defect without pressure or tension on it, it becomes necessary to make a trans-dorsal incision, as detailed in Case 1, detach it entirely except on each side, so that the circulation may be maintained. The flap will drop of its own weight against the joint. This procedure constitutes the real and only modification and addition to the old triangular flap method.

It is important that all these flaps fall into position of their own weight; pressure or tension defeats the healing process. The base or flap attachment should be broad. While in both cases the base was directed in a distal direction, it would seem, when possible, the base should be in a central direction on account of the more favorable condition for the venous return. When the triangular flap is used for ankle-joint deformities, the base line should always extend from one malleolar tip to another, (1) because all resisting tendons, ligaments and other resisting structures can be easily severed, (2) because there is no tension in any portion of the flap, (3) because the tibio-astragaloid joint can be exposed and, should it be deemed necessary to do an arthrodesis, as is sometimes required in paralytic or recurring deformity, the articular surfaces can be easily removed with a chisel and an ankylosis of the joint can confidently be expected.

Aims and Uses of a Medical Society.—How often do we find that the man whom we thought from the rumors of disgruntled patients, or envy of rival practitioners to be a man of "hoofs and horns," in reality, when we come to meet him personally, is a gentleman, both professionally and socially. The medical society becomes a clearing-house where we not only acquire new medical knowledge, but also a better and higher opinion of our fellow-practitioners. How easy it is to believe evil of those whom we know only by hearsay or reputation, and how highly do we think of those whom we know the best, and how slow are we to believe slander and gossip about those with whom we are well acquainted. Acquaintance engenders knowledge and sympathy. Sympathy reveals community of interest—community of interest fosters organization, and organization brings power and influence, and this brings me to the consideration of another of the uses of a medical society—namely, its relation to and influence on the community. We have a duty to our patients, but we have a duty to the community in which we live, not only as physicians but as citizens. In sanitary matters, in milk supply, in food inspection, in sewerage and water supply, in education, in our public schools, in municipal improvement and adornment, in the immigration problem, in the care of the dependent and defective classes, the medical society should, and in many instances does, take the leading part in guiding and influencing public sentiment.—A. W. Hurd, in *Buffalo Medical Journal.*

Special Article

THE PHARMACOPEIA AND THE PHYSICIAN.

CHAPTER XIV.

STOMACHICS.

In this group we shall include a number of agents, many of them used for centuries, with actions scarcely better understood now than they have been in the remote past. They include those agents commonly called bitters and aromatics, terms which refer only to taste, or, to be more accurate in the case of aromatics, to taste and smell, but which are employed as therapeutic terms for want of better, thus showing how little we know of their mode of action. Despite this want of exact knowledge of their pharmacologic action, the accumulated clinical evidence of 2,000 years or more goes to show that they are useful in slight catarrhal conditions and in minor functional disturbances in which there are no serious anatomic changes.

It is possible that their beneficial influence is sometimes in part due to the psychic effect, as they are agreeable to many tastes, and their regular use may encourage the patient—two important factors in digestion.

Most of the experiments that have hitherto been conducted with these agents have been made on animals, and the results have been variable and often contradictory, hence we must depend almost entirely on clinical evidence for guiding us in their uses.

Owing to the great variability of the functions involved and the natural discrepancy in the capability of various observers, most inaccurate conclusions are reached, and, therefore, no attempt can be made to give precise information as to the exact relative merits of one member rather than another in a given condition.

Bidder and Schmidt, in 1852, observed that the sight of food caused the secretion of gastric juice in a fasting dog, and Pawlow, in 1888, proved the existence of specific secretory nerve fibers in the vagus, and that the gastric secretion is stimulated reflexly from the mouth. That the taste of bitter substances excites the flow of saliva is common experience, and they are said to stimulate reflexly the gastric secretion when they are taken in the mouth. It has not been proved that the bitters have any effect on pancreatic secretion in animals, but it is probable that they do stimulate it reflexly in man.

Borissow has recently studied the effects on gastric secretion in the dog of bitter substances taken into the mouth but not into the stomach. He found that the bitter *taste* caused a marked increase beginning almost immediately, but not lasting long. He therefore advises that the substance, preferably in liquid form, be given only a short time before eating. He maintains that the negative results obtained by Tschelzow were due to the use of excessive amounts of bitter extract which inhibit the digestive action. Bitter substances which pass into the stomach without producing a bitter taste are useless as stomachics.

Bitter substances in the stomach have been found to increase the number of leucocytes in the blood, and, according to Hofmeister, the leucocytes are concerned in the transportation of a part of the digestive proteids into the circulation. The bitters, therefore, should cause a more rapid absorption of the digested proteids. It can not be stated positively whether or not the bitters increase the gastric movements, but it has been suggested that increased functional activity of the gastrointestinal canal may occur from reflex stimulation, due to irritation of certain sensory nerves in the stomach, in a manner analogous to the reflex stimulation of the gastric secretion by the taste or sight of food.

After therapeutic doses of the simple bitters have reached the stomach they can hardly exert any perceptible effect directly on the activity of the gastric juice, and this extremely slight effect, if adverse, would be very much more than counterbalanced by the increased amount of the secretion.

While there are a number of official substances that may be, and are, used as simple bitters or stomachics, it will not be necessary to enumerate more than a few of the more popular to illustrate the variety and the uses of this class of drugs.

GENTIANA.—U. S.—The dried rhizome and roots of *Gentiana lutea*, constitute by far the best known and the most widely used of all simple bitters. This drug is not alone of interest medicinally, but it has also taken an important part in the folklore, traditions and legends of European peoples. It is said to have been introduced into medicine by Gentius, King of Illyria, who first discovered its medicinal virtues.

FLUIDEXTRACTUM GENTIANÆ.—U. S.—This is made with diluted alcohol.

Average dose: 1 c.c. (15 minims).

EXTRACTUM GENTIANÆ.—U. S.—This is an aqueous extract of gentian evaporated to pilular consistence.

Average dose: 0.25 gm. (4 grains).

TINCTURE GENTIANÆ COMPOSITA.—U. S.—This represents 10 per cent. of gentian, 4 per cent. of bitter orange peel and 1 per cent. of cardamon in 60 per cent. alcohol.

Average dose: 4 c.c. (1 fluidram).[1]

CALUMBA.—U. S.—The dried root of *Jateorhiza palmata*, was introduced into Europe by the Portuguese in the seventeenth century and has been much employed as a simple bitter since that time, particularly on the continent of Europe.

FLUIDEXTRACTUM CALUMBÆ.—U. S.—This is made with 70 per cent. alcohol.

Average dose: 2 c.c. (30 minims).

TINCTURA CALUMBÆ.—U. S.—This represents 20 per cent. of the crude drug.

Average dose: 4 c.c. (1 fluidram).

QUASSIA.—U. S.—The wood of *Picrasma excelsa*—Jamaica quassia or of *Quassia amara*—Surinam quassia, appears to be more popular in England than in this country. The official preparations are:

FLUIDEXTRACTUM QUASSIÆ.—U. S.—This is made with 33 per cent. alcohol.

Average dose: 0.5 c.c. (8 minims).

EXTRACTUM QUASSIÆ.—U. S.—This is an aqueous extract of quassia, representing ten times its weight of the crude drug.

Average dose: 0.05 gm. (1 grain).

TINCTURA QUASSIÆ.—U. S.—This represents 20 per cent. of quassia in 35 per cent. alcohol.

Average dose: 2 c.c. (30 minims).

Two other drugs which are frequently used by American physicians are chirata and berberis.

CHIRATA.—U. S.—The dried plant of *Swertia chirayita* is a comparatively recent addition to European medicine, though it has long been used and held in high esteem by the Hindus. The only official preparation in our Pharmacopeia is:

FLUIDEXTRACTUM CHIRATÆ.—U. S.—This is made with diluted alcohol.

Average dose: 1 c.c. (15 minims).

BERBERIS.—U. S.—(Barberry)—The rhizome and roots of *Berberis aquifolium*.

FLUIDEXTRACTUM BERBERIS.—U. S.—This is made with diluted alcohol.

Average dose: 2 c.c. (30 minims).

Aromatics.

Aromatics contain volatile oils, on which they depend for their flavor and for a slightly irritant action on the mucous membranes. Brandl found that the irritation and the consequent hyperemia of the mucous membrane of the alimentary canal, due to sharp tasting substances, caused increased absorption of certain products of digestion. As the aromatics usually have an agreeable taste, they probably increase gastric secretion by reflex stimulation, but it has not been demon-

1. The compound tincture of gentian is probably the most popular of all stomachics and is widely used either alone or in combination with a mild antacid, such as sodium bicarbonate. A mixture that is largely used, particularly in hospital practice, may be compounded somewhat as follows:

℞ Tinct. gent. comp. 3x 40
Sodii bicarb. .....gr. xc 6
Aquæ q. s. ad. .....℥iii 100

To be given in doses of 2 or 3 teaspoonfuls before meals.

Such a prescription, of course, may be varied in innumerable ways, the addition of compound tincture of cardamom will not alone improve its appearance, but will also make it much more acceptable, in that it makes the whole mixture more aromatic. The addition of tincture of capsicum, 0.2 c.c. or 0.3 c.c. (3 to 5 minims) to each dose, makes the mixture sharp and pungent and may be desirable, particularly in cases of alcoholic gastritis.

strated that they increase the amount of hydrochloric acid or of the digestive ferments.

Gottlieb, in experimenting on rabbits with the volatile oil of mustard and with pepper, found an increased pancreatic secretion, both solids and liquids, from irritation of the gastric mucous membrane. He admits the possibility of the absorption of a part of such volatile substances and a consequent direct stimulation of the secretory cells of the pancreas, but he obtained a similar increase of pancreatic secretion by reflex stimulation, using as irritants 0.5 per cent. acid and strong alkalies, which are not nearly so apt to be rapidly absorbed. Gottlieb's results with volatile oil of mustard have been criticized because he used as much as half a drop for a rabbit—a dose which might be termed massive, considering the size or the weight of the animal, but the rabbit's gastrointestinal canal is probably not so easily irritated as is that of man.

In support of the claim that the pancreatic secretion is reflexly stimulated are the results of Bernstein and Heidenhain's experiments on dogs. These observers found that pancreatic secretion begins so soon as food is taken, when reflex stimulation alone could cause it.

All volatile oils have an antiferment action, and the aromatics, therefore, may lessen gastric fermentation.

The slightly irritant effect, with the hyperemia, must be the main factors in their effects on digestion after that of reflex stimulation, for pancreatic secretion has been found to be much more markedly influenced by the dilation of blood vessels and a consequently free circulation than by changes of blood pressure; thus free secretion has been observed after chloral, with dilated vessels and low blood pressure.

In this connection it is to be remembered that nausea, pain in the stomach and other symptoms of functional disturbances of the gastrointestinal canal are often promptly relieved by external application of heat or even by a mustard footbath, which can only act reflexly.

It is easy to understand why pure air and interesting surroundings play such an important rôle in appetite and digestion when we consider how completely those functions are under the control of the reflexes, mere change of location being much less important than the substitution of interesting for monotonous surroundings, and in advising change of scene with outdoor life these details can not be too carefully considered.

Bitters, and more particularly the aromatic bitters, are indicated in loss of appetite when it is not due to grave gastric disturbances. When catarrh of the gastric mucous membrane complicates the condition, an astringent bitter, such as serpentaria, cimicifuga or cinchona, should be used. In the absence of catarrh, indigestion accompanied by insufficient gastric secretion, a simple bitter, such as gentian or calumba, may be used alone, but it is very much more often advisable to combine the simple bitters with aromatics.

The individual taste of the patient should always be considered in the choice of the aromatic. Men often like simple bitters, such as gentian or gentian and orange, a fact attested by the extraordinary popularity a few years ago of a certain bitters, which consisted practically of compound tincture of gentian. Women usually prefer mildly aromatic and not very bitter substances, while children are generally averse to them altogether.

When excess of acidity exists bitter substances will probably increase the trouble. Just as bitters and aromatics produce a greater effect in cases of functional disturbances, so iron is useful in anemia, though it has little influence in health, and it is often found advisable to combine iron with bitters, in which case the astringents are to be avoided because of the chemic reaction, whereby an inky mixture is formed, disagreeable alike to sight and taste—two great objections in this class of remedies.

Many bitters which are not usually classed as astringents contain enough tannin or similarly acting substances to give inky mixtures with ferric salts; such, for instance, are gentian and nux vomica. Calumba, therefore, is to be given the preference in all cases in which a bitter is to be combined with a soluble salt of iron. Detannated preparations of cinchona and even solutions of the cinchona alkaloids have little to recommend them in preference to calumba as a simple bitter.

The following is an example of a simple bitter combined with iron:

R.	Tinct. calumbæ.....ʒiii	100
	Tinct. ferri chloridi.....m. lxxv	5
	Aquæ q. s. ad.....ʒvi	200

M. Sig.: A tablespoonful may be given half an hour before meals to men, while a teaspoonful will usually suffice for women.[2]

The possible combinations of aromatic bitters are infinite, and, as previously stated, the individual taste is to be considered rather than slavish adherence to any one formula.

Of the official aromatic bitters we may enumerate:

CALAMUS.—U. S.—(Sweet Flag.)—The dried rhizome of *Acorus calamus* was known to the ancients and is still used largely in Europe, though not so popular in this country.

FLUIDEXTRACTUM CALAMI.—U. S.—This is made with 75 per cent. alcohol.

Average dose: 1 c.c. (15 minims).

AURANTII AMARI CORTEX.—U. S.—(Bitter Orange Peel.)—The dried rind of the unripe fruit of *Citrus vulgaris* has long been used as an aromatic bitters, but is chiefly used as an addition to other bitter drugs, as in the compound tincture of gentian and the compound tincture of cinchona.

FLUIDEXTRACTUM AURANTII AMARI.—U. S.—This is made with 65 per cent. alcohol.

Average dose: 1 c.c. (15 minims).

TINCTURA AURANTII AMARI.—U. S.—This represents 20 per cent. of the crude drug and contains 60 parts of alcohol.

Average dose: 4 c.c (1 fluidram).

Astringent Bitters.

Drugs that might properly be classed as astringent bitters are numerous, and, therefore, we shall enumerate but a few of the more interesting or more popular.

CIMICIFUGA.—U. S.—The dried rhizome and roots of *Cimicifuga racemosa*, a plant that is a native of North America, have been used extensively in some sections of the United States.

FLUIDEXTRACTUM CIMICIFUGÆ.—U. S.—This is made with strong alcohol.

Average dose: 1 c.c. (15 minims).

TINCTURA CIMICIFUGÆ.—U. S.—This is made with alcohol.

Average dose: 4 c.c. (1 fluidram).

SERPENTARIA.—U. S.—The rhizome and roots of *Aristolochia serpentaria*, popularly known as Virginia snakeroot, have been used in Europe for over 200 years.

FLUIDEXTRACTUM SERPENTARIÆ.—U. S.—This is made with 80 per cent. alcohol.

Average dose: 2 c.c. (30 minims).

TINCTURA SERPENTARIÆ.—U. S.—This represents 20 per cent. of the crude drug and is made with a menstruum containing 65 parts of alcohol.

Average dose: 4 c.c. (1 fluidram).

HYDRASTIS.—U. S.—The rhizome and rootlets of *Hydrastis canadensis*, a perennial plant that is indigenous to Canada and the United States east of the Mississippi River.

FLUIDEXTRACTUM HYDRASTIS.—U. S.—This is made with a menstruum containing 60 parts of alcohol, with glycerin and water, and should contain not less than 2 per cent. of hydrastin.

Average dose: 2 c.c. (30 minims).

TINCTURA HYDRASTIS.—U. S.—This represents 20 per cent. of the crude drug and is made with 65 per cent. alcohol.

Average dose: 4 c.c. (1 fluidram).

CINCHONA.—U. S.—While undoubtedly better known and more extensively used as a bitter stomachic than either of the above, it is unnecessary to recount the origin or the uses of this drug. It is official under two titles: cinchona and cinchona rubra. Of the former we have:

FLUIDEXTRACTUM CINCHONÆ.—U. S.—This is made with 80 per cent. alcohol and contains 4 per cent. of ether-soluble alkaloids from cinchona.

Average dose: 1 c.c. (15 minims).

TINCTURA CINCHONÆ.—U. S.—This represents 20 per cent. of the crude drug and should contain 0.75 per cent. of cinchona alkaloids.

Average dose: 4 c.c. (1 fluidram).

2. While small doses of iron, well diluted, may be given with bitters before meals, if larger doses are given after eating they are borne better than they would be if given on an empty stomach.

The only official preparation of red cinchona is the old and still popular Huxham's tincture of bark.

TINCTURA CINCHONÆ COMPOSITA.—U. S.—This represents 10 per cent. of red cinchona, 8 per cent. of bitter orange peel and 2 per cent. of serpentaria.

Average dose: 4 c.c. (1 fluidram).

For an astringent bitters the fluid extract or the tincture of cinchona, cimicifuga or serpentaria may be combined somewhat as follows:

℞ Fl. ext. cinchonæ
Tinct. gentianæ comp., āā.....3xii 50|

M. Sig.: One teaspoonful to be given before meals.

For women it will be well to increase the amount of aromatics, in which case the compound tincture of cardamon may be substituted for the compound tincture of gentian and the mixture even further diluted with aromatic elixir, if thought desirable, as follows:

℞ Fl. ext. cinchonæ.....3v 20|
Tinct. cardamomi comp.
Elixir aromatici, āā.....3x 40|

M. Sig.: One teaspoonful of this mixture, with water, to be given before meals.

NUX VOMICA.—U. S.—The dried ripe seed of *Strychnos nux vomica*, although not containing sufficient tannin to be classed as an astringent bitters, is frequently used as a bitter stomachic. The available preparations are:

FLUIDEXTRACTUM NUCIS VOMICÆ.—U. S.—This contains 1 per cent. of strychnin.

Average dose: 0.05 c.c. (1 minim).

TINCTURA NUCIS VOMICÆ.—U. S.—This contains 2 per cent. of extract of nux vomica and is assayed to contain 0.1 per cent of strychnin.

Average dose: 0.6 c.c. (10 minims).[3]

Carminatives.

The origin of this word is in doubt, some authorities maintaining that it comes from *carmen*, a charm, and the term is even now used somewhat loosely for those agents which produce a sense of warmth and well-being and which act as antispasmodics, or which expel gases from the gastrointestinal canal. When given with cathartics they lessen the griping pain of these drugs, and, being antiseptic, they inhibit the formation of gas by fermentation.

According to the accepted definition, a greater or less number of substances can be included in this particular class. The official carminatives afford a very wide range of choice, as they include practically all aromatic bitters, nearly all the aromatic volatile oils, besides such substances as ginger and capsicum, which contain pungent resinous constituents, alcohol, ether, chloroform and many other agents which produce a sense of warmth when swallowed.

Carminatives are among the most ancient of remedies and are indicated in pain in the stomach or bowels when due to simple indigestion or distention by gas, but not when there is inflammation; in the latter case—for instance, in appendicitis or in peritonitis—carminatives are apt to augment the trouble.

Many of the substances are well known as household remedies and, therefore, it will suffice to enumerate only the more important ones.

ZINGIBER.—U. S.—Ginger has been used from time immemorial in eastern Asia, it was well known to the ancient Greeks, and is even now, perhaps, the most popular of all the carminatives. The most widely used of the official preparations is the tincture.

TINCTURA ZINGIBERIS.—U. S.—This represents 20 per cent. of the crude drug exhausted with alcohol.

Average dose: 2 c.c. (30 minims).

FLUIDEXTRACTUM ZINGIBERIS.—U. S.—This is an alcoholic extract.

Average dose: 1 c.c. (15 minims).

OLEORESINA ZINGIBERIS.—U. S.—This is now directed to be made with acetone.

Average dose: 0.03 gm. (½ grain).

Half a teaspoonful, as noted above, of the tincture may be given in a little hot water or with sugar.

The oleoresin is much more active, and a drop of it may be thoroughly well mixed with powdered sugar and from one-eighth to one-fourth of the quantity given to a child, but not to an infant. It may also be added in half-drop doses or less to bulky cathartic pills or mixtures, but in either case it should be well diluted.

THE OFFICIAL MINTS.

Of the large number of aromatic drugs of the mint family, two have attained more than ordinary popularity as carminatives. The revisers of the Pharmacopeia have, indeed, been impartial in their description of these two substances and have treated them absolutely alike, so that from their status as official drugs it would be difficult to say whether peppermint or spearmint should be accorded the preference. It will be safe to assert, however, that peppermint is the more widely used. It is official as:

MENTHA PIPERITA.—U. S.—(Peppermint.)—The dried leaves and flowering tops.

Average dose: 4 gm. (1 dram). This is sometimes used in infusion.

OLEUM MENTHÆ PIPERITÆ.—U. S.—This is a volatile oil distilled from the fresh and partly dried leaves and flowering tops of peppermint.

SPIRITUS MENTHÆ PIPERITÆ.—U. S.—This is an alcoholic solution of 10 parts of oil of peppermint filtered through 1 part of bruised peppermint, which imparts to it a distinct greenish color.

Average dose: 2 c.c. (30 minims).

AQUA MENTHÆ PIPERITÆ.—U. S.—This is a saturated aqueous solution of oil of peppermint.

Average dose: 15 c.c. (4 fluidrams).

As noted above, spearmint, *Mentha viridis*, is official under closely corresponding headings and the doses are, of course, the same.

The uses of these official mints are too numerous and too well known to require description in detail. They appear to be particularly useful in gastric fermentation, for which purpose they are usually given in connection with a mild alkali, like sodium bicarbonate, preferably in the well-known mixture of soda mint of the National Formulary or the widely used soda-mint tablets.[4]

Accumulations of gas in the stomach which prove most distressing can often be promptly relieved by administration of 20 grains of sodium bicarbonate or potassium bicarbonate dissolved, preferably in hot water, to which from 10 to 20 drops of spirit of peppermint or spearmint may be added.

ASAFETIDA.

ASAFŒTIDA.—U. S.—A gum resin obtained from the root of one or more species of *Ferula*, was held in high esteem by the ancient Greek physicians and has been popular with all classes of medical practitioners since that time.

Average dose: 0.25 gm. (4 grains).

As an addition to other carminatives, asafetida in substance was at one time very popular. At present it is but infrequently administered in any other form than suppositories. These are largely used after surgical operations to overcome the atony and partial paralysis that frequently accompanies surgical in-

3. A mixture of nux vomica and sodium bicarbonate offers a number of advantages as an efficient and comparatively harmless stomachic. It is made as follows:

℞ Tinct. nucis vom. .....m. lxxv 5|
Sodii bicarb. .....gr. cl 10|
Aquæ dest. q. s. ad .....℥v 150|

Although technically this formula involves an incompatibility practically it is very satisfactory indeed. If the mixture is filtered and allowed to stand for 24 hours before being dispensed it will be found to have developed a very pleasant ethereal odor that adds materially to its effectiveness. The usual dose for adults is one tablespoonful before meals. For a patient with chronic constipation the addition of 1 or 2 c.c. (15 to 30 minims) of the fluidextract of cascara sagrada will be found to be highly satisfactory. One argument in favor of this combination is that it contains little or no alcohol.

4. The mistura sodæ et menthæ of the National Formulary consists of:

Sodium bicarbonate.....grs. lxxv. 5|
Aromatic spirit of ammonia.....m. l. 1|
Spearmint water to make.....℥iii 100|

Mix and filter.

The average dose of this preparation is from 2 to 3 teaspoonfuls.

Soda mint tablets as furnished by manufacturers usually consist of 0.3 gm. (5 grains) of sodium bicarbonate with 0.002 (1/30 minim) of oil of peppermint.

terference in the abdomen. The only official preparations containing asafetida in substance are:

PILULÆ ASAFŒTIDÆ.—U. S.—Each pill contains 0.2 gm. (3 grains) of asafetida and 0.06 gm. (1 grain) of soap.

Average dose: 2 pills.

TINCTURÆ ASAFŒTIDÆ.—U. S.—This represents 20 per cent. of asafetida in alcohol.

Average dose: 1 c.c. (15 minims).

EMULSION ASAFŒTIDÆ.—U. S.—This represents 4 per cent. of asafetida in water.

Average dose: 15 c.c. (4 fluidrams).

This preparation is also used extensively, as a clyster, to relieve accumulations of gas in the intestines, after abdominal operations. It was at one time a very popular remedy for colic in infants, but the nauseous taste makes it very disagreeable and the greater number of infantile complaints, in which it might be indicated, are much more effectively treated with a laxative such as castor oil or magnesia, and by the application of heat to the abdomen.

The pernicious habit of using such preparations as Mrs. Winslow's Soothing Syrup, Chamberlain's Colic, Cholera and Diarrhea Remedy, Kopp's Baby Friend[5] and others which have been exposed in THE JOURNAL, can not be too strongly condemned. If an opiate is thought to be necessary, it is much better to advise the nurse or mother to give five drops or more of paregoric, with warnings about the disadvantages and the dangers of its indiscriminate use.

CHLOROFORM AND ETHER.

CHLOROFORMUM.—U. S.—As a carminative, chloroform probably deserves a much more extended use than it now has.

Average dose: 0.3 c.c. (5 minims). This may be given either on sugar, in shaved ice, or in ice-cold water.

SPIRITUS CHLOROFORMI.—U. S.—This contains 6 per cent. of chloroform in alcohol.

Average dose: 2 c.c. (30 minims).

EMULSUM CHLOROFORMI.—U. S.—This contains 4 per cent. of chloroform with a small proportion of expressed oil of almonds, emulsified with tragacanth.

Average dose: 8 c.c. (2 fluidrams).

The spirit of chloroform, diluted with aromatic elixir, or the emulsion of chloroform given alone, promptly affords a sense of warmth in the stomach and will usually give relief in cases of colic and pain.

ÆTHER.—U. S.—Ether, sulphuric ether of the early pharmacopeias has long been in use as a carminative.

Average dose: 1 c.c. (15 minims).

SPIRITUS ÆTHERIS.—U. S.—This contains about 33 per cent. of ether.

Average dose: 4 c.c. (1 fluidram).

SPIRITUS ÆTHERIS COMPOSITUS.—U. S.—The well known and widely used Hoffman's anodyne contains in addition to ether about 2.5 per cent. of ethereal oil.

Average dose: 4 c.c. (1 fluidram).

Compound spirit of ether, in addition to its other uses, has long enjoyed a special reputation in hysteria due to gastric disturbances. It is disagreeable to the taste, however, and probably possesses no advantage over hot whisky and water, or spirit of nitrous ether.

Alcoholic liquids in general are often useful, but their use and their numerous disadvantages can not be advantageously discussed in this connection.

CLOVES AND OTHER AROMATIC SUBSTANCES.

CARYOPHYLLUS.—U. S.—(Cloves.)—The dried flower buds of *Eugenia aromatica*. This remedy appears to have been known to the early Egyptians, but was not known to or used by the later Greeks. In Europe this drug, probably introduced by the Arabians, has been known for many years.

Average dose: 0.25 gm. (4 grains).

OLEUM CARYOPHYLLI.—U. S.—This is a volatile oil distilled from cloves.

Average dose: 0.05 c.c. (1 minim).

The oil of cloves is much more frequently used for its anesthetic and caustic effect on exposed nerves in carious teeth than as a carminative, but it may be used for the latter purpose, in which case it is better to add it to spirit of peppermint or some other alcoholic carminative preparation, before diluting with water.

Oil of cinnamon resembles oil of cloves in its carminative effect, and the official tincture of cinnamon is also useful for the same purpose, but is more commonly employed as an adjuvant or flavor for other more active carminative agents, and in diarrhea.

Mustard, pepper and nutmeg are not used medicinally as carminatives, but are much employed as condiments to serve practically the same purpose.

5. See THE JOURNAL A. M. A., vol. xliv, p. 666.

Clinical Notes

IDIOSYNCRASY TO LEAD-WATER AND LAUDANUM.*

ALBERT ENGLES BLACKBURN, M.D.
PHILADELPHIA.

My attention was first called to this condition some six years ago, when a solution composed of Goulard's extract and tincture of opium, of each 1.5 oz. to a quart of water, was ordered to be applied warm to a knee which had been injured by a fall. In twenty-four hours a diffuse erythema with intense itching and burning developed over the area to which the solution was applied. The patient complained more of this than of the injury. The second instance was as follows:

The patient was a corpulent woman who was suffering from a very much inflamed leg of varicose origin, which threatened to break down and form an ulcer. The above solution was applied in the same manner. Again in twenty-four hours, when I next saw her, there was a very pronounced erythema, corresponding to the part to which the solution had been applied. The patient complained of burning and itching. When I saw her on the following day the surface was thickly studded by vesicles and pustules, which infection had probably been introduced by scratching. By this time the poison had been carried to the eyelids, forehead and cheeks, which became swollen to the point of disfigurement, with the itching and burning very intense. The condition lasted about ten days, when it dried and desquamated.

Some three months ago I was called to see the same patient, who was suffering from acute articular rheumatism involving the right wrist. The same solution was ordered and the same phenomena were observed.

In the first instance the druggist was thought to have made a mistake, but this I knew positively was not the case in the last instance. The only solution was idiosyncrasy on the part of the patient. Whether it was caused by the lead-water or the laudanum I do not positively know. Some of those I have spoken to about the subject think it due to the first and others to the second.

Poisoning from the external application of either or both of these must be exceedingly rare, as in a search which included a number of textbooks, the *Index Medicus* and the library of the college I failed to find reference to the subject.

J. C. White, of Boston, in his "Dermatitis Venenata," does not mention it. Morrow on "Drug Eruptions" does not allude to poisoning by lead when applied externally, but does allude to its producing an erythema when taken internally. I quote from him the following:

* Read before the West Philadelphia Branch of County Medical Society.

The external application of the salts of lead in the form of solutions and ointments sometimes produces discoloration of the skin of a brownish or black character.

Foucand de l'Espagne reports the case of a woman who was ordered a cytrate of lead as an eye wash; under the advice of another physician she was at the same time using sulphur baths for rheumatism. A black discoloration of the eyelids ensued and spread over the cheek bones, which was removed after six days by bathing the parts with infusion of herbs.

The internal administration of the salts of lead may cause an erythematous rash of the skin.

Snow, quoted by Peffard, reports a case where the body became spotted by petechiæ from the internal use of carbonate of lead.

3726 Baring Street.

ACUTE ACETANILID POISONING.

JOHN BOYD TYRRELL, Sc.M., M.D.
SAN FRANCISCO.

C. H. M., male, aged 52, came to this city from his home in Idaho to visit relatives. While here he complained of severe headache most of the time. Not getting relief from ordinary "headache pills" and "headache powders," he went to one of the local drug stores and bought an ounce of acetanilid in powder, bulk, took it to the hotel at which he was stopping, and took what he said was a half teaspoonful. He was relieved of his headache in a short time, and in about two hours went down town to do some shopping. As he was walking down town he noticed that he was weak, but paid no attention to it. He went into a barber shop for a shave, and scared the barber by his "terrible blueness," as the barber expressed it to me afterward. However, the barber shaved him, and felt very much relieved after the man had left the shop.

From the barber shop the patient went to a clothing store, where one of the clerks noticed his condition. In a few minutes he was seen to sway, become extremely cyanotic, and go to the floor in a "dead faint." I was immediately called and found him in deep syncope, extremely cyanotic, and with pulse very feeble and rapid.

I gave him strychnia, digitalin and nitroglycerin in combination; also artificial heat and fresh air, and resuscitated him. In about three minutes he went into another attack of syncope. I again gave him nitroglycerin, gr. 1/100, to which his heart responded, and kept him quiet for several hours, during which time he had several slight attacks of syncope. Patient gradually recovered.

I believe that acetanilid poisoning is more common than is usually believed, due to the laxness of laws regulating the sale of such products, and especially the sale of the nostrums containing this treacherous drug as their principal ingredient.

THE ADAMS-STOKES SYNDROME AND THE BUNDLE OF HIS.

E. O. JELLICK, M.D.; C. M. COOPER, M.D.; WILLIAM OPHULS, M.D.
SAN FRANCISCO.

We desire to put on record a case of acute epididymitis, probably gonorrheal in origin, leading to septicemic symptoms, in the course of which the Adams-Stokes syndrome appeared fourteen days before death. The autopsy of the heart demonstrated anemic necrosis of the muscular septum in the region of the bundle of His[1] consequent on a recent thrombosis of its nutrient arteries. Elsewhere the heart muscle was healthy.

1. In this connection see editorial in THE JOURNAL, March 3, 1906, page 658.

New Instrument

A NEW UTERINE DILATOR.

FREDERICK LEAVITT, M.D.
ST. PAUL, MINN.

To open the mouth and neck of the pregnant uterus artificially is difficult under favorable conditions; to do so when the conditions are unfavorable is one of the most trying operations in all surgery.

Under some conditions of the os and cervix, manual dilatation is more or less easily accomplished, but there are other cases in which the fingers are utterly useless. Consider the tissues to be overcome—a fibromuscular canal so firmly closed normally that with all the burdensome pressure of gravidity it remains intact, even the force of strong labor causing it to yield only after many hours of exhausting effort. If it takes Nature ten or fifteen hours to effect an opening, what shall be said of a device that will accomplish such a feat within an hour and do it safely?

While the hand is a dilator always at command there are disadvantages accompanying its use. First, it can not be thoroughly sterilized; and, second, it will tire. The frequent alternate use of both hands, with an assistant's hands brought into service in tedious and difficult cases, multiplies the chances of infection. Manual dilatation, therefore, is a truly surgical procedure.

The dilator I have devised is an instrument of four levers and a handle with a large fulcrum on one end and a smaller one on the other. Each blade is notched near its middle, and when placed in position for dilating, the notch fits into a suitable depression on the edge of the fulcrum. The ends of the levers—the blade part—are designed to enter the cavity of the uterus only so far as may be necessary for the work to be accomplished. The gynecic end is long and slender, the obstetric end short and broad. During pregnancy, particularly toward its close, there would be no difficulty in introducing the broader ends of the levers, since they may be introduced one at a time. Dilatation may be carried on by compression with the hands alone, with the rubber alone, or, what is very practical, with manual and elastic force, both applied at the same time, the one supplementing the other. If intermittent pressure be desired, opposing blades may be compressed even while the rubber is doing its part of the work.

The instrument is simple in construction. There are no screws or nuts to adjust; there are no hinges or joints to become rusty; no detachable parts to get lost. There are only five pieces to the whole instrument, and they are very plain and easily cleaned. It is self-retaining as soon as the second blade is in position. It is light, yet strong enough to do twice the work demanded of it. It does not obstruct the field of operation. The process of dilatation may be closely watched, the parts sponged, and the presenting part palpated—all between the blades of the instrument. If occasion demands great haste, this also permits the making of multiple incisions into the cervix after the method of Dührssen. The degree of dilatation is approximately that of the hand, i. e., eight and one-half inches in circumference. For all practical purposes this is deemed sufficient.

The manipulation of the device is easy. The patient is brought to the edge of the table and the knees supported in the lithotomy position; the posterior wall of the vagina is depressed with a speculum. The Edebohl speculum is very serviceable, as it is self-retaining when weighted, besides, it dilates the outlet of the parturient canal. The first blade of the dilator is introduced up to the shoulder of the blade (Fig. 1). On this is placed the fulcrum of the handle, the notches fitting into each other (Fig. 2). The second blade is introduced similarly and should be placed opposite the first one. A small rubber band (Fig. 3) is now slipped over the free ends of the levers, in order to keep them in position. The two remaining blades are placed in apposition, the rubber band slipped over each as it is put in place (Fig. 4). When all four blades are properly adjusted (Fig. 5), active dilatation is begun and maintained by winding around the ends of the levers one or

more rubber bands. These are not slipped over the blades as was the smaller one, but are wound around them. To do this dextrously the band is looped over any one of the blades, put on the stretch, and carried around once, twice, thrice, as the case may be, the other end being made fast by slipping it in turn over any one of the blades. Any good rubber band of average size is competent to dilate the os uteri in a reasonably short time—say, thirty to forty-five minutes. As dilatation progresses (Fig. 6) and the ends of the levers are brought together, the band may be loosened and reapplied—take an extra turn—or another band may be used to supplement the first one (Fig. 7).

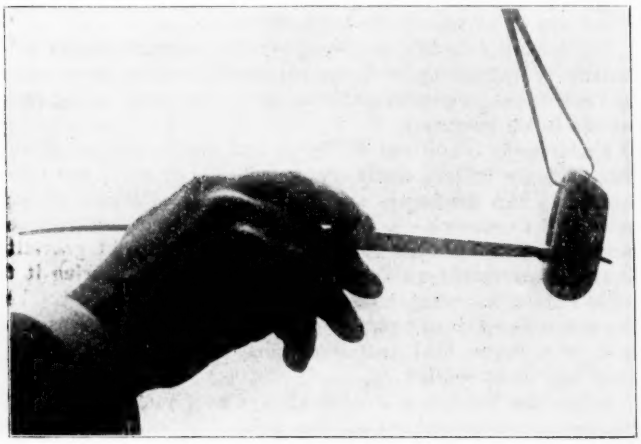

Fig. 1.—Introducing the first blade.

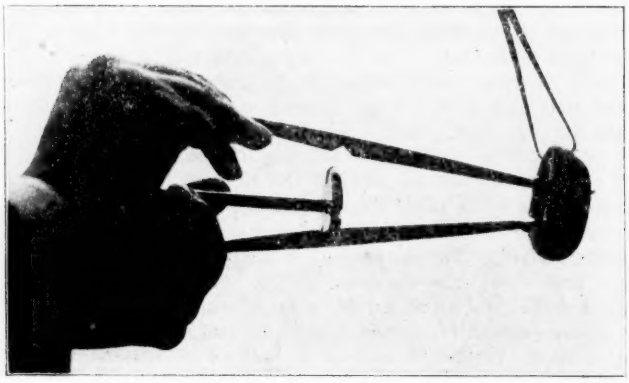

Fig. 2.—The first blade in position, the fulcrum adjusted to it and ready to receive the second blade.

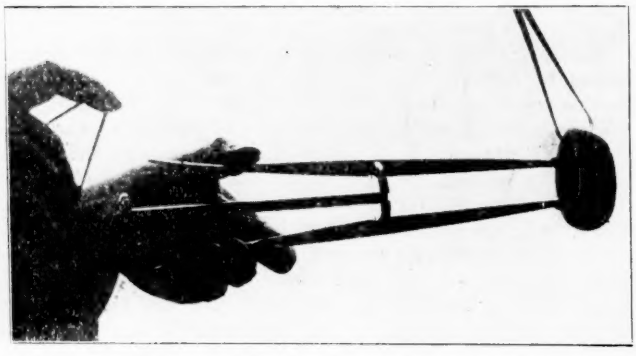

Fig. 3.—Slipping a rubber band over the proximal ends of the levers (calculating from the operator) already in working position.

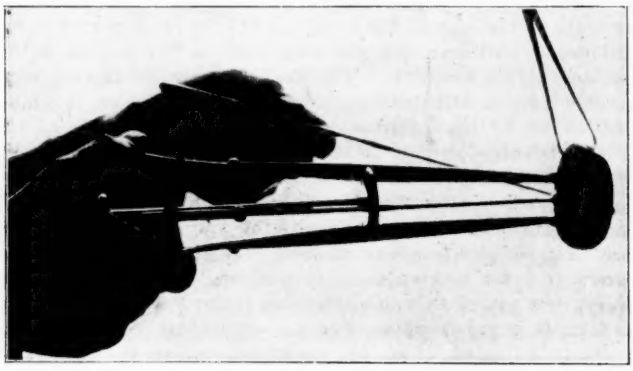

Fig. 4.—Adjusting the fourth and last blade.

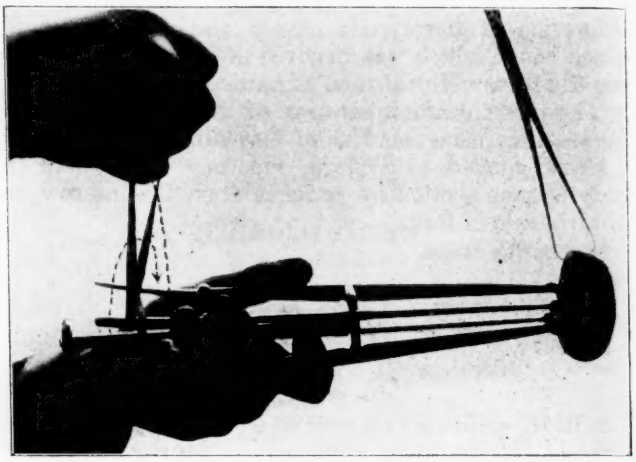

Fig. 5.—All the blades in position and held in place by a rubber band. Active dilatation is begun and maintained by means of a rubber band of average size and strength. As dilatation progresses, the band may be released and re-applied, each time fastening the free end a little further around.

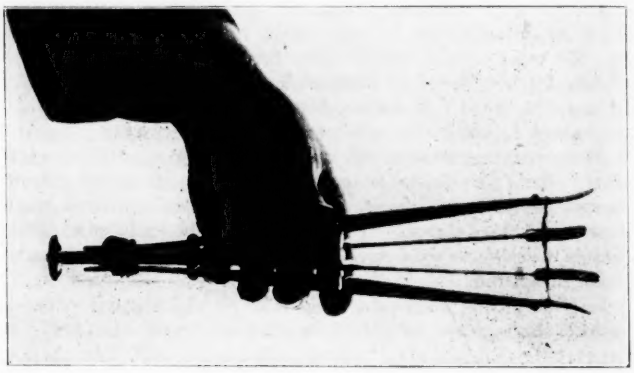

Fig. 6.—Showing the amount of dilatation possible when using the larger or obstetric end of the handle.

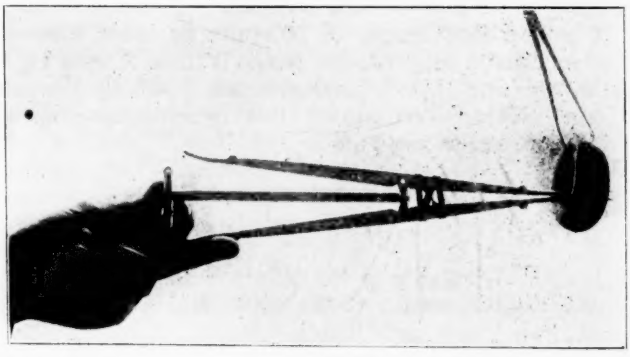

Fig. 7.—The levers in position for dilating the cervix for gynecic purposes. The rubber band near the fulcrum is simply to hold the blades in place on the handle. After dilatation has progressed sufficiently, the third and fourth blades also may be applied if desired.

The instrument has been used in St. Paul during the past year and a half with success that warrants its recommendation.

125 Lowry Arcade.

New Appliance

A NEW REAGENT OUTFIT FOR CLASSES IN BACTERIOLOGY.

E. GUY HOPKINS, M.D.

Lecturer on Bacteriology and Demonstrator of the Microscopical Laboratories, University College of Medicine, Richmond, Virginia, and Clinical Pathologist of the Virginia Hospital.

RICHMOND, VA.

In order to meet the requirements of economy, simplicity and neatness I have devised the reagent outfit here illustrated for the use of my classes in the microscopic laboratories of the University College of Medicine, Richmond, Va.

This outfit consists of a tube rack and a set of reagent containers (Fig. 1).

The rack consists of a block of wood 2x2x6 inches, bored with 12 holes 1¾ inches deep by ⅜ inch in diameter.

The containers consists of 12 small test tubes, 100 mm. long by 8 mm. inside diameter. These tubes are equipped as follows:

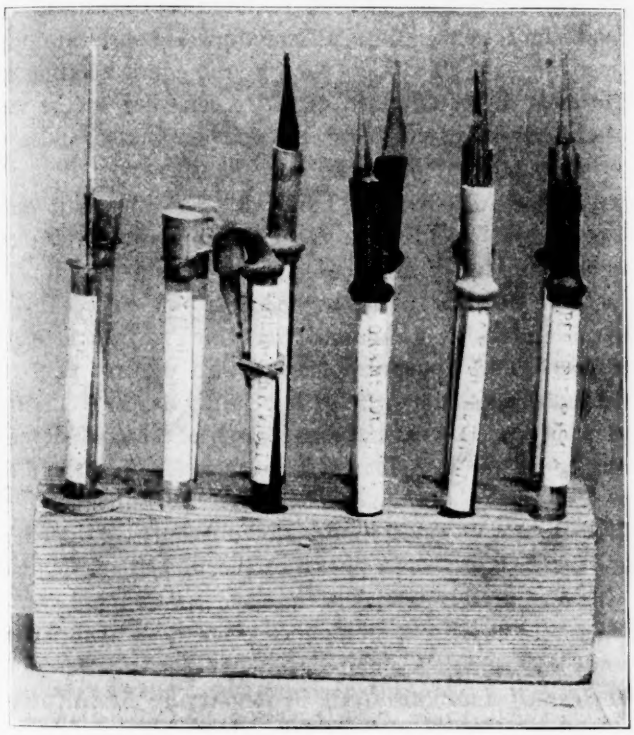

Figure 1.

One is fitted with a cotton mop and contains vaselin for sealing hanging-drop preparations. Three are fitted with ordinary cork stoppers and contain respectively, alcohol, acetic-acid-alcohol, xylol. Eight have pipette points attached to their mouths by means of rubber tubing 35 mm. long, 7 mm. outside diameter and 5 mm. inside diameter; the pipette points are 20 mm. long and are drawn from 6 mm. glass tubing; these tubes contain respectively: distilled water, Gram's solution, 1 per cent. sulphuric acid, Bismarck brown, Loeffler's methylen blue, carbol-fuchsin, Gabbett's solution and anilin-gentian-violet.

Each container is supplied with enough solution for from 15 to 20 coverslip preparations. When in use the container is inverted over the coverslip and the rubber is compressed between the finger and thumb until the desired amount of fluid has been expelled. Relaxation of the rubber then causes reentrance into the tube of any fluid adherent to the point, so that there is no leakage down the side when the container is replaced in the rack (Fig. 2).

If it is undesirable to leave a container open, even by so small an aperture as the point of the pipette, it may be effectively closed by folding the pipette point back against the side of the test tube and confining it there by a small rubber band, thus making a stopper of the rubber tube.

When the containers become empty they are refilled from stock bottles fitted with siphons. These siphons have long pointed distal limbs, so that in filling a container it is necessary to remove only the pipette point from the rubber tube, which remains attached to the test tube (Fig. 3).

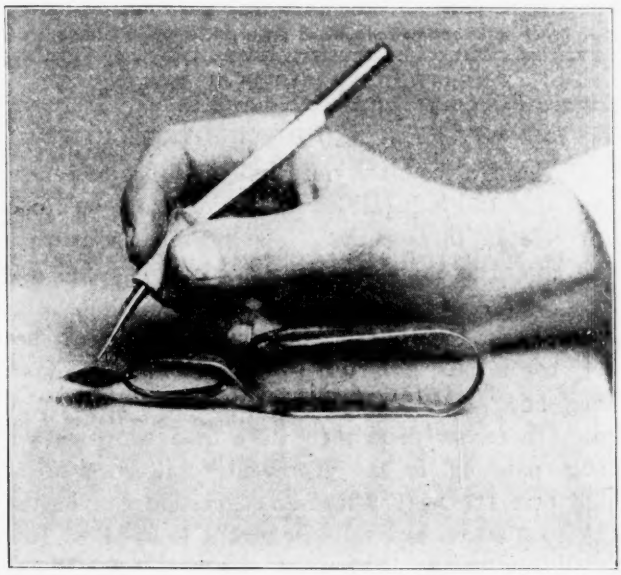

Figure 2.

Figure 3.

After a critical experience with this outfit, covering a period of three months, with a class of 76 students, I find it admirably adapted to the purpose for which it is designed.

The same principle with slight variations has also been applied in preparing outfits for other laboratory classes.

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SATURDAY, MARCH 31, 1906.

THE PHYSICIAN AND PSYCHIC TREATMENT.

All through the history of medicine it has been recognized that the influence of suggestion plays an important rôle in therapeutics. The physician's assurance with regard to the significance of symptoms and as to the prognosis of the case has always been acknowledged as distinctly curative in tendency. Suggestion, however, has always been considered of secondary importance, and in the organic affections this is especially true. In recent years there have been many developments pointing to the therapeutic influence of the mind over the body whenever suggestion can be used with good effect, especially in regard to so-called functional conditions. Nearly a century ago Mesmer claimed that a number of presumably serious symptoms could be effectively cured by suggestion either in the hypnotic condition or in the waking state. In more recent times the success of mental healing and of Eddyism has called renewed attention to these facts. The frequently announced new remedies that prove after a time to be not so effective as was at first thought, because their novelty has worn off, provides further confirmatory evidence of the therapeutic value of suggestion.

During the past decade a number of contributions to practical therapeutics have been made that recommend the use of suggestion, not as a merely secondary and accessory method of treating certain functional diseases, but deliberately, as an independent therapeutic agent. Two valuable contributions of this kind have recently appeared. In the last volume of "International Clinics,"[1] Dr. Pallet, physician to the Paris hospitals, directs attention to psychotherapy in nervous diseases. He emphasizes the undesirability of using hypnotic suggestions in most of the functional neuroses, since not infrequently it leads to a further weakening of the will and a consequent loss of control over nervous conditions. He has found, however, that ordinary persuasion and rational discussion of symptoms with a patient will often prove sufficient to remove symptoms that have been a source of suffering for a long period. Dr. DuBois,[2] professor of neuropathology at the University of Berne, Switzerland, has published a book, which we reviewed recently, in which the proper use of psychic treatment for nervous diseases is systematically considered.

Both these authorities have picked out certain underlying conditions which are causative of nervous symptoms and which they have found amenable to psychic treatment. The most important of these are the fixed ideas and the so-called phobias or fears which often prove sources of so much worry to patients as to bring about extremely annoying and persistent symptoms. Fixed ideas are especially likely to rule over the digestive tract and must be removed before any of the many forms of neurotic dyspepsia can be lastingly improved. Patients become convinced that they can not take certain kinds of food or that beyond a certain quantity their digestive organs are unable to dispose of it properly, and then a whole round of symptoms is likely to develop, because of the lack of nutrition consequent on food limitation. More is accomplished by carefully removing such fixed ideas than by the administration of the most nicely adjusted digestive remedies or the use of the most powerful ferments and enzymes to aid the ordinary ferment processes.

Phobias are especially likely to affect the heart and the cerebral circulation. Two very important sets of symptoms develop as a consequence. The heart palpitations of neurotic patients constitute one of the most important sets of symptoms with which physicians have to deal. Pseudo-angina-pectoris, with positive pain in the precordia and a sense of impending death, occurring in young persons without any signs of arterial degeneration or any symptom of a heart lesion, is the worst of these, but the symptoms may exist in minor degrees down to simple palpitation. Not infrequently the sleep is disturbed as a consequence of the patient's solicitude with regard to the possible consequences of these symptoms, and the result is another element in the vicious circle that gradually undermines the patient's physical condition. Insomnia itself in its varying forms, probably due more to disturbances of cerebral circulation than to any other single cause, comes under the same head and is often rendered persistent by the patient's anxiety as to whether or not he will be able to sleep, and his constant fear lest his loss of sleep should eventually lead to intellectual deterioration and perhaps to insanity.

Any physician of experience knows how difficult it is to treat such patients by any of the ordinary remedial measures. He is aware, also, how often such conditions are improved by the changed state of mind consequent on a series of interviews with a mental healer or the suggestive influence of some one who has insisted with authority that the condition can surely be cured. The deliberate use of persuasive suggestion in these cases is recommended by Ballet and DuBois as the most efficient remedy and one whose influence will persist longer than any other method of treatment. The suggestion

1. International Clinics, Fifteenth Series, vol. iv, 1906.

2. "The Psychic Treatment of Nervous Disorders," by Dr. Paul DuBois, translated and edited by Dr. Smith Ely Jelliffe, and Dr. William A. White, New York. Reviewed in THE JOURNAL, March 10, 1906.

may have to be repeated on a number of occasions, but if the physician can assure his patient that there is no organic lesion of heart or brain, either existent or impending, then improvement is usually a matter of only a short time. There seems to be no doubt that the deliberate use of this method of psychotherapy would add a new and efficient therapeutic agent in the treatment of what are usually very obstinate cases.

Its more general employment by the general practitioner would lessen the number of patients who now tire of the consumption of drugs from which no benefit is derived or from which only temporary relief is obtained, and who eventually find their way at the present time into the hands of quacks and charlatans of various kinds. All physicians employ suggestion to some degree, but there is room for its employment to a much greater extent and in a wider field with benefit to rational medicine, to physicians and to their patients.

DRINKING IN GREAT BRITAIN.

The drink bill of Great Britain is enormous, and drinking among women is reported to be more prevalent than ever, though statistics show that excessive consumption of alcoholic beverages is on the wane. In fact, it would seem that "a wave of sobriety" is at last passing over that country.

Dr. Dawson Burns, in a recent communication to the London *Times*, compares the expenditure on alcoholic liquors for 1905 and 1904, respectively, and finds a decrease of no less than $24,050,000. This is a substantial decrease, but as the total amount expended on drink still reaches the immense sum of $820,000,000, more or less, there is ample room for further improvement in this direction. Undoubtedly the drinking habits of the population at large of Great Britain, and especially of town dwellers, are responsible for much of the physical and mental degeneration which are now obvious features in the large centers of population throughout the United Kingdom. Efforts are made to minimize the significance of the conditions of urban life, but it seems to be acknowledged that insanity is on the increase and has been making rapid headway for the past thirty years, and that the race has deteriorated physically and mentally. Such decadence must be attributed, in great part at least, to the tendency of the population to desert the country for the towns, in consequence of which the towns are overcrowded and present in most respects conditions of life inimical to sound health. And of all the agencies prejudicial to health which beset the dwellers in cities, none has so deadly an effect on the body and mind as has strong drink.

It must be reassuring to our British cousins to find that their drink bill is showing a steady and continuous decrease. The total diminution in expenditure on drink in six years has been nearly $110,000,000, or, allowing for increase of population, in the neighborhood of $170,000,000. The reasons for this comparative and continuous tendency to more temperate habits among the British can not be stated off-hand. Perhaps "hard times" has had much to do with the "wave of sobriety," although it is asserted by many who are in a position to know whereof they speak that the somewhat altered situation is due to a diminished desire for alcoholic beverages. It is to be hoped that the latter explanation is the correct one, and that the people of Great Britain are beginning to recognize the folly of their ways and to appreciate the fact that drink has already sapped, in some degree, the vitality and energy of the race, and that unless the habit be checked matters will go from bad to worse. Dr. Burns calculates that the expenditure for drink per capita in England is nearly $20, in Scotland slightly more than $15 and in Ireland even less.

Without seeming to be pharisaical and thanking God that we are not as other men are, we may lay the flattering unction to our souls that as consumers of strong drink we are far behind our European brothers. These remarks, however, must apply to the country as a whole. In many of the cities, so far as the drink question is concerned, conditions approximate those that exist in European cities. Even in the cities we are greatly in advance of Great Britain in all that concerns the hygiene of saloons. The *Lancet* recently published articles dealing with the "public house" as a factor in the spread of disease, in which was pointed out the unsanitary state of affairs as regards the ordinary British saloon, and a contrast was drawn between this class of establishments there and here, which was greatly in favor of the American saloon. The employment of barmaids was also made the subject of a scathing editorial in a later issue of our London contemporary.

In this country we are at all times, perhaps, too ready to "pat ourselves on the back" with regard to the superiority of our institutions generally, but when a conservative journal like the *Lancet* acknowledges that in the management of saloons, regarded from a sanitary standpoint, the United States easily leads, we may be allowed to plume ourselves on our progress without laying ourselves open to the charge of being unduly impressed with the manifold advantages of our own land and institutions. The drink problem is undoubtedly the most serious that confronts the inhabitants of Europe, leading, as it does, to the loss of physical and mental vigor. Here the question may be of lesser import, but it is one that can not be lightly regarded.

THE EFFECT OF ROENTGEN RAYS ON THE BLOOD-FORMING ORGANS.

At first there was a tendency to deny or to doubt that the Roentgen ray had any special effect on internal organs or processes, but two practically simultaneous yet independent events showed that this assumption was wholly without foundation. The first of these events

in point of time was the observation of the remarkable effect of Roentgen rays on the course of pseudoleukemia and leukemia (Pusey, Senn, Brown and others), to the treatment of which they were applied in a more or less empirical way. The second event was the demonstration by Heinecke (1903-4) of the elective destructive action of the rays on the lymphoid tissues in the spleen, lymph nodes and bone marrow.

In this country the effect of the Roentgen rays on the blood-forming organs has been studied especially by Warthin,[1] who combines experimental work with the study of material from leukemic patients treated with Roentgen irradiation. His experimental work shows that the rays cause nuclear disintegration and necrosis of lymphoid, myeloid and epithelioid cells in small animals after very short exposures and commonly most marked in the spleen. This destruction may be succeeded by regenerative processes that may pursue a protracted course. Exposures of five hours kill mice, rats, rabbits and guinea-pigs after a few days, the symptoms permitting the interpretation of an intoxication from disintegrative processes in cellular protein material.

The selective effects of the Roentgen rays demonstrated by Heinecke, Warthin and others explain the therapeutic action of the rays in leukemia—it is due to removal of leucocytes from the general circulation, the spleen, etc.—and to delay in the production of new cells. The final result to be obtained by this treatment is still a matter of some uncertainty, and it seems doubtful whether or not the underlying and essential causes can be totally removed. The leukemic state may be resolved into an aleukemic one (Warthin's Case 1) "or it may even assume the type of a sarcoma" (Warthin's Case 3). The destruction of enormous numbers of leucocytes by this treatment is in itself dangerous, because of the formation of neurotoxic and other poisons and because of grave changes in the kidneys, characterized especially by extensive calcification, due to excretion of poisonous substances, as shown well in Brown and Jack's original case (Warthin's Case 1). As put by Warthin, the problem resolves itself into this: "How much of the abnormal leucocyte-forming tissue in the bone marrow, spleen or lymph glands can be destroyed by Roentgen rays before the patient succumbs to the disease or to the treatment"? He suggests that in early cases a cure may be effected.

This situation calls for continued investigation in the hope that some means may be discovered that will render this at first so promising a treatment for so hopeless a disease as leukemia really effective and practicable. Thus the mechanism of *x*-ray destruction of leucocytes is yet wholly obscure. Investigation by Capps and Smith,[2] as well as others, shows that there develops a leucotoxic substance in the blood of leukemic patients treated with Roentgen irradiation, whose serum on injection into other patients promptly reduces the number of leucocytes.

The data at hand concerning this substance are yet too few to permit of much speculation concerning its nature and other qualities. Suffice it to say that in the Roentgen ray we have an agent with special action on the leucocytes and blood-forming organs and that the continued study of this effect from various points of view certainly will yield important results as regards the diseases that affect these organs.

1. International Clinics, 1906.
2. Trans. Chicago Path. Soc., 1905, vi. 371.

THE ARMY MEDICAL REORGANIZATION BILL.

The leading editorial in the *Army and Navy Journal* for March 10 comments on the inexplicable action of Senator Hale of Maine in his opposition to Senate bill No. 1539, to increase the efficiency of the medical department of the United States Army, a bill the urgency of which is acknowledged not only by the medical corps, but by the line of the army. THE JOURNAL has repeatedly referred to the necessity of the passage of this bill which deals with a question of vital importance to the entire military service. In the editorial it is stated that "it is an amazing and disheartening thing . . . that a bill now pending in the Senate, which seeks to correct the admitted deficiencies in the Medical Department of the United States Army, should encounter an unreasoning and indefensible opposition at the hands of a distinguished Senator—Mr. Hale of Maine. . . . Ever since the anxious days immediately preceding the outbreak of the Spanish war he has maintained an attitude of obstruction toward nearly every important measure relating to the national defenses."

The bill was passed by the Senate February 5, but Senator Hale, who was not present at the time, later demanded that the bill be reconsidered, and, in conformity with senatorial courtesy, this was done and the bill was restored to the calendar. It came before the Senate again on March 6, where it met a most arbitrary and irrational opposition from Senator Hale, and the measure went over. Without seeking to fathom or to impugn the motives of the Senator for endeavoring to defeat this just and humane measure, it is evident that he is entirely in error in the attitude which he has taken and is engaged in an effort to inflict on the army, and indeed on the whole country, what would be, in the event of war, a stupendous calamity.

The present faulty condition of the medical department of the army has existed for more than five years, notwithstanding continuous efforts for its correction made by high officers of the government who have thoroughly studied the situation. Last year the Senate passed the bill and the House was in favor of it, but for some unknown reason it was blocked by the speaker. This year, in the House, the same bill is now before the Military Committee and a favorable report is anticipated.

There are three vital defects in the organization of the medical corps: I. It is numerically inadequate to meet the needs of the army as it is now on a peace basis of 60,000 men. In other words, it lacks one-fourth the officers required during peace. In the event of war the army would be at once expanded to a strength of 100,000 men, when, it is obvious, the medical personnel would be entirely insufficient for the humane work required of it, and the country again would be obliged to witness the tragedy of pest-stricken camps and the ghastly spectacle of multitudes of deaths from preventable diseases. The question with any nation having world relations is not "Will war come?" but "How soon will it come?" When it does come—as come it will—we want a sanitary and medical service that will meet the needs of the time. The work of preparation must be done during peace. When the war cloud looms, it will be too late, and inadequate preparation is almost as bad as none. Inertia and delay to provide those safeguards which experience has so plainly pointed out as necessary to the efficiency of our army savor of barbarism. We have recently seen what a small nation just out of its swaddling clothes can do by enlightened action in the way of mitigating the havoc wrought by disease in war time. Are we who boast of being at the forefront of civilization to be outdone in this work of humanity by the baby of nations?

II. There is a glaring inadequacy of rank. There is less rank relatively in the medical corps to-day than in any other staff corps in the army, although the difficult and exacting duties of the department render such discrimination against it most unjust and prejudicial. To-day there are twenty-seven vacancies in the medical department, in spite of the utmost endeavors of the Surgeon-General to induce a sufficient number of candidates to take the examination. Until an appointment in the medical staff shall hold out greater inducements to the qualified young physician, it will be impossible to fill the medical corps.

III. The contract surgeon system, which Mr. Hale defends, has been an incubus on the medical department for fifty years, and is now without a single redeeming feature to justify its continuance. It has been at best but a makeshift, and under present conditions is archaic and unsatisfactory. It is true that excellent service has been rendered by many of the contract surgeons, but the system is absolutely out of place in the military service.

The bill proposed by the Surgeon-General aims to correct these defects. It is conservative, its provisions have been deeply considered and it barely meets the needs of the army. It has the hearty approval of the President, the Secretary of War, the Secretary of State, the General Staff, the press of the country in general, and the medical profession. Why has it not been passed?

It is most unfortunate that the body possessing the power to remedy the defects spoken of has in it no specialists in any line affecting health. Perhaps for this reason it is not specially interested in the health of the army, nor is it so competent to judge of the needs of the medical department as it otherwise might be. It would seem, however, that it should be disposed to accept the earnest recommendations of those who are best informed and most capable of judging of those needs. He must, indeed, be obtuse who has not learned what these needs are; and, in the event of failure to grant the relief so earnestly sought and so palpably required, a heavy responsibility will rest on those who have shut their eyes and ears to the facts and who have opposed this beneficent legislation.

DISREPUTABLE ADVERTISERS AND THE MAILS.

When all other sources fail to check disreputable medical advertisers, the U. S. postal laws frequently intervene most efficiently. A postal inspector who had already done good work in Boston was recently ordered by the Postmaster-General to go to New York to investigate a certain class of advertisers in the newspapers of that city. He found many advertisements which showed their intent clearly and that the advertisers were illegally using the United States mails; the counsel of the County Medical Society was able to furnish what amounted in some instances to legal proof of the offense against the United States laws. A large number of the more prominent of these advertisers were called to account, and it is said that many of them will be compelled to leave their present fields of activity and to seek other locations—some of them, perhaps, under pretty rigid physical restrictions. A similar campaign could successfully be carried on in every large city, and it is a pity that the United States laws will not cover a wider field and take in the accomplices who print and publish these advertisements, as well as those that actually use the mails. We can hardly pick up a newspaper published in our large cities that does not contain some advertisements whose criminal intent is easily discerned. The publishers of these papers use the mails, as well as the advertisers, and in some extreme cases have also been reached by the United States laws. Here, as elsewhere, however, a little sinning is tolerated or overlooked.

INTERRUPTION OF CIRCULATION AS A THERAPEUTIC MEASURE.

There are a number of subacute or subchronic hyperplastic processes, especially involving the joints, that do not yield readily to ordinary therapeutic measures. For these Dr. William Ewart[1] has proposed a plan of treatment that, in his hands, has yielded encouraging results. The procedure has the merit of simplicity, requires no special apparatus, and has the added advantage of freedom from danger under proper conditions. The part to be treated must first be rendered anemic; the patient assumes the recumbent posture,

1. Lancet, Jan. 27, 1906, p. 213.

and the part is elevated and squeezed free of blood. An Esmarch tourniquet or a length of rubber tubing of suitable thickness is then applied. The tubing may be tightened around the member in single or in double loop over a slight protecting pad. The tube can either be drawn tight, the ends being held, or it may be coiled over itself to any degree of tightness. The constriction may be maintained for from 30 seconds to three minutes, in accordance with the nature of the conditions present in the individual case, and should be released suddenly at the conclusion of the treatment, the member having previously been lowered to the dependent position. The procedure is not applicable to inflamed or tender nerve trunks, nor to senile and calcified arteries. The application of the ligature is followed by pallor of the part, with emptying of the superficial veins, and a subjective sensation of pressure. Later numbness appears, passing into anesthesia. Pain and tenderness lessen and may even disappear, and there may be a feeling of recovery of some degree of power for active movement. The removal of the ligature is followed, after a varying interval, by a visible, bright blush of the skin and nails and a sense of increased heat. The treatment has been applied to the following conditions: Subacute, subpyrexial synovitis, persistent or relapsing, in young subjects of rheumatic tendency; deforming, soft, puffy, nodular arthritis in women, with chronic, quiet, intra-articular and periarticular effusions and thickenings, and the late massive arthritic thickenings, with articular rigidity or with much stiffness. In view of the results reported and of the apparent harmlessness of the measure, it is entitled to fair and extensive trial. The method of treatment described is suggestive of that proposed and practiced by Bier. From this, however, it differs in the production of a primary anemia followed by a secondary arterial hyperemia. It is not improbable, on the other hand, that the good effects observed after the employment of both forms of procedure are, in reality, due to identical conditions.

THE FLY AND THE TUBERCLE BACILLUS.

The recent stress which has been laid on alimentary infection in tuberculosis should lead to a more careful consideration of the means by which tubercle bacilli may reach the alimentary canal. The recent studies of Lord[1] show that the ubiquitous fly may play an important part in alimentary transmission. The bacilli not only pass the alimentary canal of the fly unchanged, but undergo a marked proliferation there. Fly specks may contain as many as 5,000 bacilli, and, according to Lord's computations, thirty infected flies may deposit within three days from 6,000,000 to 10,000,000 tubercle bacilli. The danger does not seem to be from the liberation of tubercle bacilli in the air, but from the deposition of the fly specks on food. That this can and does occur under certain circumstances was abundantly demonstrated by our experience with typhoid fever during the Spanish-American war. We should bear in mind the possibility of infection by the fly and be much more strict than we are at present in the disposition of sputum and in the protection of food stuffs, and this refers particularly to the summer months.

1. Publication of the Mass. Gen. Hospital, 1906, Vol. 1, p. 118.

WHO PAYS THE BILLS?

A rather expensive and attractive reprint of an article that appeared in a St. Louis drug journal, entitled "A Legislative Scheme of the American Medical Association, a Conspiracy to Establish a Physicians' Trust," is being widely circulated. From the number of copies that have been sent us, with the envelopes in which they were originally mailed, we should imagine that it is being circulated to every newspaper in the country, and, of course, to all medical journals. According to a correspondent in Georgia, it is also being distributed through the mails by certain congressmen under their "franking" privilege. This is certainly an interesting development! The article itself, as will readily be appreciated by those who read it and who know the actual facts, is made up of misrepresentations and specious arguments. The animus that prompted the article is, of course, evident to those who know what the *National Druggist* represents. Evidently, the object in circulating this reprint in the manner above outlined is to create an antagonism toward the medical profession, because of its efforts in favor of the Pure Food Bill and of legislation against frauds in medicines. The question arises, "Who is paying for this?" for it is certainly costing some one considerable money, even if the free use of the mails is secured by some congressmen. Is it to be imagined that this St. Louis drug journal supplies the money? Are the individuals who are sending out their reprints attacking the Association and its work, with their "arguments" for the use of preservatives in foods, etc., paying their own printing and postage bills? Is it not extremely likely that those who are feeling the influence of the Association in its fight against nostrums have something to do with this attempt to disparage the medical profession, and especially the American Medical Association, in the eyes of the public? We have evidence that "patent medicine" men are mailing these pamphlets from Chicago; but they are also being mailed from other cities. At least one nostrum manufacturer, who has made a fortune out of our profession, is directly connected with the scheme.

Medical News

ILLINOIS

Hospital Dedicated.—The Memorial Methodist Hospital, Mattoon, was formally dedicated and opened to the public, March 15.

Hospital Corps for Third Infantry.—Lieut. Robert C. Bourland, assistant surgeon, Third Infantry, I. N. G., Rockford, is organizing a hospital corps for that regiment.

Hospital for Oak Park.—A hospital to cost $100,000 is to be erected at the northeast corner of Wisconsin Avenue and Monroe Street, Oak Park, for the Sisters of Misericordia.

Physicians Acquitted.—Drs. Harry B. Vanatta, Lerna, and P. M. Little, Janesville, charged with manslaughter, were acquitted in the Effingham County Circuit Court, March 22.

St. Francis Hospital to Have New Building.—The increasing demands on St. Francis Hospital, Evanston, have necessitated the erection of a new building, which will have a frontage of 216 feet, will be five stories in height, will be equipped with all modern appliances and will cost $100,000.

New Medical Association.—Physicians and dentists of Waukegan and North Chicago met March 12 and organized the Waukegan Medical Association, with the following officers: President, Dr. Edward F. Gavin; vice-president, Dr. Jacob F. Roemer; secretary, Dr. Beatrice Pearce; treasurer, Dr. William S. Bellows, all of Waukegan, and executive committee, Drs. Leon H. Tombaugh and Charles E. Daniels, Waukegan, and Dr. Fuller, North Chicago.

Chicago.

A Narrow Escape.—Firemen and policemen saved the lives of the four children of Dr. William G. Willard, March 17, when his house caught fire and filled with smoke, preventing the escape of the children from their rooms.

Donation to Library.—Dr. Nicholas Senn has presented to the Newberry Library the working library of Professor Meissner on internal medicine and a botanical library of between 200 and 300 volumes, consisting mainly of old and classic works on herbs.

Buys Site for Hospital.—John P. Wilson has bid in, at judicial sale for about $80,000 practically, the entire block of ground bounded by Fullerton and Lincoln Avenues and Orchard Street. The property is to be the site of the new Maurice Porter Hospital.

Personal.—Dr. Eugene S. Talbot has been unanimously elected an honorary member of the Stomatological Society of Hungary.——Dr. and Mrs. A. F. Henning have returned after nine months in Europe.——Dr. Edward G. Burgman was overcome by gas while searching for a leak under his house, March 22, and is seriously ill.

Tuberculosis Institute Incorporated.—The Chicago Tuberculosis Institute was incorporated March 19 by Dr. Arnold C. Klebs, Dr. Henry B. Favill and Edward B. Bicknell. The organization will rent a building, establish a free dispensary, collect statistics and carry on an active educational campaign. Dr. Frank Billings is president of the institute, and Dr. Henry B. Favill, chairman of the board of trustees.

Fined and Imprisoned.—Dr. N. News Wood of Christian Hospital notoriety was sentenced to imprisonment for ten days in the county jail and to pay a fine of $100 for contempt of court, March 23. The offense consisted in the violation of an injunction obtained by Dr. John B. Murphy in December, 1904, restraining the defendants from using his name or photograph in their literature. The Christian Hospital was also fined $250.

Mortality for the Week.—There were 533 deaths reported during the week ended March 24, equivalent to an annual death rate of 13.55 per 1,000. This compares favorably with the death rate of the preceding week, 14.10, and with that of the corresponding week of 1905, which was 15.21. Pneumonia still heads the list with 97 deaths; consumption caused 73 deaths; heart diseases, 52; acute intestinal diseases, 32; nervous diseases, 30; nephritis, 25, and violence including suicide, 21. The death rate for pneumonia is especially low as compared with last year, but there was an increase in the mortality from typhoid fever which it is hoped is only temporary, as the water supply of the city is apparently free from suspicion at present.

LOUISIANA.

Protest Against Low Fees.—At a meeting of the St. James Parish Medical Society, held Dec. 7, 1905, the following resolutions, offered by Dr. B. A. Colomb, were adopted:

We hereby protest against the practice of certain life insurance companies in paying less than five dollars for any medical examination. We see no reason why a smaller fee should be paid for one examination than for another since the work is always the same. We can not further understand why some life insurance companies have been able to maintain a minimum examination fee of five dollars while others have not.

We have noted with surprise that, while the examination fees were being cut down on the plea of economy, all other expenses were enormously increased, although the examining physician is the most important employé of any company, as its success or failure will depend on the quality of his work.

We demand that the Louisiana State Medical Society take some action on this question at its next meeting, and that it be brought before the American Medical Association in proper form.

MARYLAND.

Hospital Incorporation.—The Emergency Hospital of Easton was incorporated March 19. A site will be procured and a building erected in the near future.

Jury Could Not Agree; Case Retried.—In the case of "Dr." J. Tompkins and F. William Herman, a druggist of Hagerstown, charged with being responsible for the death of Miss Jean Maxwell, who died as the result of a criminal operation, the jury disagreed and the defendants were released under bonds of $10,000. The retrial was to be held March 20.

Want New Hospital.—A delegation from Somerset County appeared before the finance and ways and means committees of the legislature, March 13, asking for an appropriation of $10,000 to build a general and marine hospital at Crisfield and $2,500 a year for its maintenance.

Would Tax Professional Men.—Delegate Luckey of Frederick County has introduced a bill into the legislature authorizing the mayor and aldermen of Frederick to tax practitioners of law, medicine, surgery, dentistry and veterinary surgery in that city, and to impose a license tax on all lawyers, physicians, surgeons, dentists and veterinary surgeons in Frederick, and to require all such persons practicing in Frederick to procure a license.

Legislative Doings.—The bill amending the medical practice act, which was introduced into the house of delegates early in the session, was unfavorably reported by the hygienic committee, March 22. A delegation of Baltimore physicians appeared before the committee against it on that day. The amendment was designed to let in without examination all those practicing medicine up to June, 1906.——It is said the joint committee of the two houses of the legislature have prepared their report of appropriations and the same is published, from which it appears that the Johns Hopkins Hospital has been cut out entirely. The Johns Hopkins University receives $50,000, and the University of Maryland (for University Hospital), $60,000.——The governor has signed the bill passed by the legislature relating to vital statistics which has been mentioned in THE JOURNAL.

Baltimore.

Respiratory Diseases.—Pneumonia continues to lead in the causes of mortality, 39 deaths being attributed to it last week. Other similar diseases causing mortality were: Influenza, 7; bronchitis, 5, and whooping cough, 2.

Lectures.—Dr. Joseph Gichner of the tuberculosis commission, lectured on tuberculosis at the Relay public school, and talks on the same subject were made at the same time by Drs. William Royal Stokes and William R. Eareckson.——Dr. Hiram Woods delivered a lecture by request before the Davis Medical Society of Jefferson Medical College on "Ophthalmia Neonatorum."

Personal.—Dr. Thomas Shearer will spend the summer in Europe.——Dr. Eugene Lee Crutchfield, who recently was operated on at St. Joseph's Hospital, is now convalescent.——Drs. John W. Chambers and Thomas S. Latimer have both been ill, but are reported as improving.——Dr. George Heller was thrown out of his carriage in a runaway, March 24, and badly lacerated about the head and face.——Dr. John A. Tompkins has been appointed resident physician at Warm Springs, Va.

MASSACHUSETTS.

Communicable Diseases.—There were reported to the State Board of Health in February, 411 cases of scarlet fever, 581 cases of diphtheria, 3,018 cases of measles, 80 cases of typhoid fever, and 19 cases of cerebrospinal meningitis.

Nervous Derangements.—Dr. James Jackson Putnam, professor of neurology at Harvard University Medical School, has attracted very large audiences to the series of popular lectures on "Certain Prevalent Nervous Derangements and the Outlook for Their Prevention," which he has been giving at the Lowell Institute.

Hospital for Incurable Consumptives.—In supporting an appeal for an appropriation of $150,000 to establish a hospital for incurable consumptives, ex-Representative Googins offered to give the state a site of 53 acres in Walpole, about 20 miles from Boston. There are said to be 14,000 incurable tuberculous patients in Massachusetts.

Impure Food Convictions.—The State Board of Health continues to push adulteration investigations and secured in January, 25 convictions for the sale of impure milk, butter, lard, gluten, maple syrup, catsup, hamburger steak, lamb's tongues, sausages, malt liquors, calx chlorata, cera flava, extractum glycyrrhizæ, extractum zingiberis fluidum, oleum olivæ, spiritus camphoræ and tinctura iodi. Three hundred and thirty-seven dairies were inspected, in 104 of which no fault was found.

No Medical Legislation.—There seems little likelihood of any important medical legislation by Massachusetts this year. The committees have reported against osteopathic registration, the restriction of the practice of medicine and even the definition of what shall constitute "a practitioner of medicine," asked for by the State Board of Registration. Antivivisection, however, has received a quietus for another year. The petition for protection of articles of food from contamination meets with little favor.

MINNESOTA.

Abortionist Sentenced.—Dr. Theron H. Bly, Minneapolis, has been sentenced to imprisonment for three and one-half years in the state penitentiary for performing a criminal operation.

Hospital Burned.—The Bray Hospital, Biwabik, was totally destroyed by fire, February 25, the inmates and patients narrowly escaping with their lives. The loss is estimated at $15,000, with insurance of $6,000.

Hospital Notes.—A contract has been let for the construction of the Evangelical Lutheran Hospital at Mankato. The building is to cost about $35,000.——A sanitarium is to be erected at Mounds Park, Dayton's Bluffs, St. Paul, to cost about $76,000.——The Warren Hospital has been completed and is now in active operation.

Ask for Malchow's Pardon.—The medical men of Hennepin County and the faculty of Hamline University are taking up the cause of Prof. C. M. Malchow, sentenced to imprisonment for a year for violation of the United States law by sending an obscene book through the mails, and within a few days a petition will be presented to the President, asking that Dr. Malchow be pardoned.

Verdict Against Physician Set Aside.—In the case of Anna Moore against Dr. Cornelius Williams, St. Paul, for $20,000 damages for an operation alleged to have been performed on the right ear of the plaintiff when the left ear was the one affected, in which the jury found a verdict for the plaintiff of $14,322.50, and at a second trial a verdict for $3,500, the district court has set aside the verdict and has ordered judgment entered in favor of the defendant.

Personal.—Dr. Winfield S. Laton, Minneapolis, has sailed from Honolulu for China.——Dr. Frederick A. Dunsmoor and daughters, Minneapolis, have sailed from Liverpool on the *Carmania*.——Dr. Henry C. Stuhr and wife, Argyle, sailed for Europe, March 15.——Dr. Harry E. Burdette, St. Paul, was picked up on the street, February 15, and is seriously ill.——Dr. Frederick E. Walker, Worthington, has gone to Hot Springs, S. D., where he will take charge of the surgical department of the Sisters' Hospital.

Banquets.—Dr. Burton J. Merrill, Stillwater, gave a banquet to the Washington County Medical Association, March 13, at which a number of physicians from St. Paul and Minneapolis were present. Dr. Thomas C. Clark officiated as toastmaster. ——Dr. John Charles Adams, Lake City, was tendered a banquet, March 10, by the Wabasha County Medical Society, of which he had been a member for many years, on the occasion of his seventy-fifth birthday. Dr. William F. Wilson officiated as toastmaster, and in behalf of the association Dr. Emery H. Bailey presented to Dr. Adams a gold-headed cane suitably inscribed.

MISSISSIPPI.

Personal.—Dr. Samuel A. Gassaway, New Albany, is seriously ill with pneumonia.——Dr. William R. McKinley, Columbus, has resigned as a member of the State Board of Health and Dr. Robert S. Curry, Columbus, has been appointed to the position.

State Laboratory Needed.—A bill has been introduced in the lower house authorizing the establishment of a pathologic and chemical laboratory for the State Board of Health, appropriating $2,500 for its establishment and providing for its self-sustenance by a fixed fee table.

Dr. Hunter Fined.—Dr. John F. Hunter, Jackson, was fined $200 January 26, at New Albany, for contempt of court, the offense of which he was adjudged guilty being his non-appearance as a witness against Dr. R. A. Holcombe, Hickory Flat, who was indicted for practicing medicine without a license.

Cost of Yellow Fever.—Dr. John F. Hunter, Jackson, secretary of the State Board of Health, has submitted a supplementary report to the legislature on the yellow fever of last summer and the expense of the fight to control it. The disease made its appearance in 15 different localities and there were 837 cases, with 61 deaths. The total expense incurred on this account was $43,220.28.

Uniform Quarantine Recommended.—The State Board of Health in a supplementary report to the legislature regarding the yellow-fever epidemic of last year, advises a uniform quarantine system for the entire state. It recommends that a sufficient appropriation be made by the legislature to the State Board of Health to provide for carrying out such a system. It also provides a heavy penalty against practitioners in the state who willfully fail to report contagious and infectious diseases to the State Board of Health. It requests also the establishment of a bureau of vital and mortuary statistics and that the secretary of the State Board of Health should be paid a salary sufficient to enable him to devote his entire time to the health interests of the state.

Warren County Meeting.—At a recent meeting of the Warren County Medical Society the following officers were elected: President, Dr. John A. K. Birchett; vice-president, Dr. John P. O'Leary; secretary, Dr. Sydney W. Johnston; treasurer, Dr. B. I. Hicks; censor, Dr. Hollie B. Wilson, and delegate to the state association, Dr. Hugh H. Haralson, all of Vicksburg. The society adopted the following resolutions:

Resolved, That it is the sense of the Warren County Medical Society that the legislature of the state of Mississippi should pass a law requiring every proprietary or patent medicine or food for the sick offered for sale in the state of Mississippi to have its formula printed in plain English on its label, and where any drug usually considered poisonous enters into the formula, then the word POISON in prominent letters also be inscribed thereon. It is further

Resolved, That each member of this society should make it his business to urge our representatives in the legislature to do all in their power to have such a law passed.

WHEREAS, The Public Health and Marine-Hospital Service saw fit to station Dr. G. M. Guiteras in charge of the yellow fever epidemic at Vicksburg; and

WHEREAS, Dr. Guiteras so ably and successfully controlled the situation by his high executive and professional ability, demonstrating so conclusively that he was eminently fitted to fill this position; therefore, be it

Resolved: 1, That we, the members of the Warren County Medical Association, tender our thanks to the president of the United States and to Dr. Wyman, surgeon-general M. H.-S., for so considering the interests of the people of Vicksburg by sending to us Dr. Guiteras; and 2, That we extend our thanks to Dr. Guiteras for his courteous treatment of the members of this association and for his faithful services; and 3, That the secretary be instructed to mail a copy of these resolutions to President Roosevelt, Dr. Wyman, Dr. Guiteras, and that the same be published in the *Mississippi State Medical Journal*, THE JOURNAL of the American Medical Association, and the local newspapers.

MONTANA.

Laboratory Installed.—A bacteriologic laboratory has been installed in St. Ann's Hospital, Anaconda, which will be at the service of the physicians of the city.

January Deaths.—Dr. Thomas D. Tuttle, Helena, secretary of the State Board of Health, reports that during January there were 266 deaths in the state, equivalent to an annual death rate of less than 9 per 1,000.

Declared to be Murray's Property.—In the suit of Dr. Isadore D. Freund against Dr. Thomas J. Murray, both of Butte, in which the plaintiff claimed that he had certain rights in the business of the Murray Hospital in which he was a partner for twelve years, the restraining order was denied and the petition for an order to show cause was dismissed, March 9.

Society Election.—The Silver Bow County Medical Society held its annual meeting in Butte, March 15, and elected the following officers: Dr. R. C. Monahan, president; Dr. Frederick W. McCrimmon, vice-president; Dr. Grace W. Cahoon, secretary; Dr. Creswell T. Pigot, treasurer; Drs. John Donovan, Thomas J. Sullivan, E. F. Maginn, John W. Scanland and R. C. Monohan, trustees, and Dr. Donald Campbell, delegate to the state association, all of Butte. The society gave a banquet at the Thornton House, Butte, March 7, in honor of Dr. Robert L. Gillespie, formerly of Butte, but now of Portland, Ore.

NEW JERSEY.

Camden Health Report.—The report of the Camden board of health for February shows that only 28 cases of contagious disease were reported, as follows: Scarlet fever, 14, diphtheria, 6; typhoid fever 5, and tuberculosis, 3.

New Seashore Hospital at Atlantic City.—The board of governors of the Atlantic City Hospital announced, March 19, that a new hospital building is soon to be erected at a cost of $100,000. Subscriptions amounting to $50,000 have already been made.

Train and Ferryboat Fumigated.—The Camden board of health, having been notified by the officials of the Atlantic City Railroad, March 20, that a train at Kaighn's Point terminal had on board a child ill with diphtheria, the train was immediately placed on a side track, and the train and ferryboat fumigated.

Personal.—Dr. Charles C. Phillips, Deerfield, who has practiced medicine in that place for 52 years, has retired and will remove to Pitman.——Dr. Harris Underwood, Woodbury, has been appointed to the house staff of Cooper Hospital, Camden. ——Dr. O. A. Clark, Long Branch City, was chosen president of the Baltimore Medical Alumni Association.——Dr. James

Hoffman has been appointed health commissioner of Jersey City, vice Dr. Gordon K. Dickinson, resigned.——Drs. Samuel E. Ewing, Leesburg, and George Spence, Vineland, are ill with diphtheria.

Oppose Osteopathic Bill.—The West Jersey Homeopathic Medical Society, at its regular quarterly meeting held in Camden, February 21, discussed the proposed osteopathic bill which is to come up before the present session of the legislature. The society had already previously condemned the passage of the bill. It was the consensus of opinion of the society that if osteopaths practice in the state they should comply with the requirements now in force, viz., a certain standard of preliminary education, a four years' course in a medical college, and examination in the fundamental sciences of medicine. The members all pledged their influence to uphold the present standard of requirements, which though high, treats all applicants alike regardless of "ism" or "pathy."

NEW YORK.

Smallpox Scare.—It is reported that the smallpox situation is serious in Putnam. Many persons have been exposed.

Farm for Tuberculosis Plant.—Dr. Darlington, president of the New York board of health, has purchased a large farm at Otisville, Orange County, near the tract of land which New York City originally purchased for the establishment of a sanitarium for tuberculous patients.

Water Supply Bill Passed.—The bill permitting New York City to go into Ulster County for water has been passed. It permits the payment of direct and indirect damages to property owners as well as to mill hands who lose their work by reason of factories having to shut down.

Pollution of New York Bay.—Representatives from New York City recently held a conference with Governor Higgins to urge him to take a vigorous stand against the pollution of the waters of New York Bay by sewage deposits from New York and New Jersey. The report of Dr. Daniel Lewis, state commissioner of health, which was made several years ago, was reviewed and it was urged that a bill providing for the further investigation of this matter be passed at the present session of the legislature.

The Labeling of Colored Foods.—Attorney-General Mayer, in construing the food law, has rendered the opinion that where goods are artificially colored they must be so labeled that the constituents and character of all preservatives are clearly set forth. He holds that compounds not injurious to health may be sold under their own names, provided that they are not displayed, advertised or sold in such a manner as to deceive the public. He calls attention to the fact that the statute prohibits imitation and substitution, and also prohibits mixing and coloring substances in such a way as to conceal inferiority.

New York City.

More Spitters Caught.—Twelve spitters were arrested by a sanitary squad in Brooklyn, and each was compelled to pay a fine of $1.

Hospital for Westchester.—As a result of a meeting held March 6 in the interest of a hospital for northern Westchester $4,000 has already been pledged. When $12,500 has been raised the hospital will be begun.

Jury Censures Hospital.—A coroner's jury under direction of Coroner Harburg has brought a verdict censuring the authorities of Fordham Hospital for removing a patient who was in no condition to be moved to Bellevue Hospital. The coroner declared that he was going to put a stop to the practice of making a dumping ground of Bellevue.

Dormitory for City Hospital.—Plans have been filed for a new three-story dormitory for the nurses of the City Hospital on Blackwell's Island. The building will cost $42,000. Plans were also filed for the enlargement of the male dormitory of the city workhouse on Randall's Island by the addition of a three-story annex at a cost of $22,000.

Garbage Disposal.—The Brooklyn Rapid Transit Company has reclaimed 200 acres of waste land in the last ten months by filling with incinerated garbage. Incinerators, in addition to burning the material put into them, create a large amount of steam power which can be utilized with profit. This company runs and heats its car shops at East New York with steam from one of its incinerators. It will soon run dynamos with steam generated at another plant.

Patent-Medicine Evils.—Fifteen hundred members of the West Side Branch of the Young Men's Christian Association adopted resolutions, after hearing Norman Hapgood of *Collier's Weekly* talk on the evils of patent medicines, petitioning the senate and assembly to pass the bill known as the Stevens-Wainwright bill for the proper labeling of medicinal preparations containing alcohol or narcotic or other potent drugs so as to show the presence and percentage of such ingredients.

Physicians Must Pay Physicians.—The suit of Dr. Thomas E. Satterthwaite to recover from the estate of the late Dr. Egbert Guernsey $450 for professional services was tried on March 23 before Justice McCarthy and a jury in the City Court. The jury returned a verdict for the plaintiff for the full amount. The right of one physician to charge another was discussed; and the chief point brought out by the testimony of a number of physicians was that specialists consider it right, and that it is customary to charge other members of the profession.

"Magic Boot" Man Held.—A manufacturer of "magic boots" for cripples, Matthew Hilgert, was held on trial for grand larceny on March 18. Hilgert's special manager was held for practicing medicine without a license. The defendants were arrested at the instance of the County Medical Society. At the hearing the court room was lined with cripples who had appeared to testify that they had paid prices ranging as high as $1,500 for a pair of magic boots. Some of the cripples declared that their cases had become hopeless since using the shoes. Hilgert was held in $1,000 bail and Whitehouse in $500.

A New Milk Ordinance.—In order to prevent milk from spoiling, preservatives of various kinds have been employed with increasing frequency. Sometimes the milk has been sterilized, and some large dealers have taken it on themselves to pasteurize their milk. The health department wishes to be sure that the milk comes into the city absolutely pure and sweet, and as many dealers are installing pasteurizing plants the following ordinance has been submitted: "No milk which has been heated, pasteurized, sterilized or subjected to heat in any manner, with the purpose of preservation, shall be received, prepared, held or kept for sale or delivered in the city of New York, unless it bears a label stating plainly the process to which the milk has been subjected."

Try to Find Work for the Handicapped.—At the monthly conference of local charity workers, held under the auspices of the Charity Organization Society, the topic discussed was how to find employment for the physically and socially handicapped so as to render them self-supporting. Dr. Theodore C. Janeway told of the large number of patients who, when discharged from the hospitals, would live many years if they could only change their employment and secure lighter work. There were many deaths among laboring men due to diseases of the heart, but it was almost impossible to get these people to change their work. A large number of discharged tuberculosis patients relapsed because they insisted on returning to their old environments and employments. These persons should be sent to the country to work.

Subway Conditions.—Trials have been made with the vacuum cleaning process in the subway, and this process seemed to remove the greasy dirt easily and quickly from the girders as well as from the tiling and woodwork. It has not been decided as yet whether this method of cleaning will be adopted or not. Dr. George A. Soper reported the results of his investigations of subway conditions during the past six months to the Academy of Medicine on March 15. From a large number of analyses he concluded that the air was not deficient in oxygen, differed very little from the air of the street in the quantity of carbon dioxid and contained only about one-half as many bacteria as the air of the streets. Some of the unpleasant odors were due to oils used on machinery, disinfectants used in the toilets and the slate used in the roadbed, which emits a peculiar odor when wet. He considered that the only menace to health was the lack of proper care in regard to cleanliness of the stations, toilets, roadbeds near the stations, etc. He recommended certain regulations as to methods of cleaning and a rigid enforcement of the law regarding spitting. The dangers were only those due to overcrowding in other localities.

OKLAHOMA.

Destroyed by Fire.—The house of Dr. John E. Standifer, Cheyenne, was entirely destroyed by fire, February 27. The loss was $2,200, with $1,700 insurance.

Smallpox.—Five cases of smallpox are reported near Cement, Caddo County, and three cases at Kechi. Several district schools have been closed and quarantine is being rigidly enforced.

Sanitarium Report.—The report of the Oklahoma Sanitarium for the Insane for the month of February showed 489 patients at the institution, an increase of about 20 over the previous month.

Fined for Operating Hospital in City.—Dr. W. M. Turner, Lawton, was recently arrested for maintaining a hospital within the residence portion of the city for private gain, and fined $25 and costs.

Personal.—Dr. John Threadgill, Oklahoma City, has been appointed a member of the board of regents of the territorial normal schools.——Dr. J. K. Julian, Covington, has been appointed coroner of Garfield County, vice Dr. John J. Barber, Hunter, resigned.

New Hospitals.—Dr. Joseph B. Rolater has opened a new private hospital with accommodation for about 25 patients at Oklahoma City.——Lawton Sanitarium has been incorporated with a capital of $10,000 by Drs. Charles S. Meridith, James L. Lewis, W. M. Turner, David A. Myers, Lewis T. Gooch, Edwin D. Meeker and Alexander X. Campbell.

Medical Societies.—The Kingfisher County Medical Society at its annual meeting elected Dr. Joseph A. Overstreet, Kingfisher, president; Dr. Charles O. Gose, Hennessey, vice-president, and Dr. Charles W. Fisk, Kingfisher, secretary and treasurer.——Southwestern Oklahoma Medical Society was organized in Hobart recently by physicians of Greer, Washita, Custer and Kiowa counties. The following officers were elected: Dr. W. L. York, Hobart, president; Dr. Alfred H. Bungardt, Cordell, secretary-treasurer; Drs. A. W. Holland, Hobart, and Walter E. Hempstead, Arapahoe, vice-presidents; and Drs. T. J. Dodson, Mangum; W. J. Curley, Cordell; W. W. Miller, Gotebo; William Tidball, Barton; Walter E. Hempstead, Arapahoe, and James M. Bonham, Hobart, censors.

OREGON.

New Building Completed.—The new building for the medical department of the Willamette University, Salem, is now practically completed and ready for occupancy.

Law Is Mandatory.—The attorney-general has decided that the law requiring each county to establish a county board of health and to appoint a physician as secretary of the board, is mandatory.

Non-payment of Occupation Taxes.—Warrants for the arrest of nearly 100 physicians and lawyers, who, it is alleged, have failed to pay the occupation tax, were issued in Portland, February 15.

Insane from Drugs.—Dr. Donald C. Lazier, Condon, has been adjudged insane and committed to the Oregon State Insane Asylum, Salem. His case is one of mental aberration due to the use of opium and cocain.

Personal.—Dr. Charles J. Smith, Pendleton, has been elected president; Dr. Edward A. Pierce, Salem, vice-president, and Dr. Robert C. Yenney, Portland, secretary, of the State Board of Health.——Dr. James P. Wallace, Albany, has been elected mayor of the city.——Dr. Eugene Du Gas, Roseburg, has been forced temporarily to suspend practice on account of ill health.

New Hospitals.—New Providence Hospital, West Roseburg, is now under construction and will be completed during the year.——A new Catholic hospital is to be established in Albany in the residence of a former priest at that place, to be conducted by the Sisters of Mercy.——A new general hospital has been opened at Grant's Pass, with accommodations for 16 patients.

PENNSYLVANIA.

Disastrous Fire.—The house of Dr. Lucius A. Warren, Lancaster, was destroyed by fire March 13, the family narrowly escaping with their lives. The loss is total, as no insurance was carried.

Sent to the Penitentiary.—"Dr." Edwin Hooper was sentenced, March 24, to 15 months in the penitentiary after two convictions for conspiracy to perform a criminal operation on a young woman of Johnstown, who died four years ago as a result of the operation.

Anniversaries.—The Newcastle Medical Society celebrated its semi-centennial March 7.——In honor of the twenty-fifth anniversary of his entrance into medical practice, Dr. John T. Howell was given a banquet by his associates and the staff of the Wilkesbarre Hospital. Dr. Howell was also presented with a pearl stick-pin.

Personal.—Dr. Willoughby H. Reed, Norristown, sailed for Jamaica, March 1.——Dr. Thomas P. Cole has been elected president of the council of Greensburg.——Dr. Edward L. Davis has been elected vice-president of the Berwick board of health, and Dr. Alexander B. McCrea has resigned as a member of the board.——Dr. George M. Brubaker has been appointed health officer of Mercersburg.——Dr. Mase S. Davis, Pittsburg, returned March 7 after four months abroad.——Dr. John K. Farrar, Audenreid, has gone to his home in Newburgh, N. Y., to recuperate from the effects of a recent accident.——Dr. E. Justin Butler, Wilkesbarre, was operated on for appendicitis, March 19.——Dr. George Hemminger has been elected president, and Dr. Samuel L. Diven, secretary, of the medical staff of Carlisle Hospital.

Philadelphia.

Bacteriologic Laboratory Report.—The report of the bacteriologic laboratory of the health bureau for February shows that 1,180 diphtheria cultures were examined and that 2,951,500 units of antitoxin were supplied.

Violation of Pure Food Laws.—Three dealers were held for court, March 22, charged with violating one of the recently enacted pure food laws in not labeling grains. The defendants were held in $500 bail for each charge against them.

Bequests.—The following bequests have been approved by the Orphans' Court in the distribution of the estate of Charles Hart: Children's Seaside Home for Invalids, Sanitarium Association, Philadelphia Home for Incurables and Children's Hospital, $5,917.45 each.

To Relieve Hospital Overflow.—The finance committee of councils, on March 22, at a special meeting, appropriated $45,000 to fit up additional quarters in the Philadelphia Museums building to relieve the overcrowded condition in the Philadelphia Hospital.

Emergency Corps Disbanded.—Director Potter of the department of public safety has issued an order calling in the badges distributed among the members of the medical emergency corps organized during the previous administration, on the ground that there is no further need for the services of the corps.

Patients at Widener Home.—More than 200 patients have applied for admission to the Widener Home, although only 100 can be accommodated. The first examination was made on March 22. No children will be received except those crippled by disease and those who can be benefited or cured. The age limits for admission are 4 and 10 years.

Suits to Remedy Eyesight Defects.—The committee on elementary schools, together with Captain Thorton of the compulsory education department, having been obliged to exclude from school a great many children on account of defects of eyesight which the parents refused to have remedied, on March 21 decided to bring suit against parents who persist in their refusal.

Organizing a Northwest Branch.—A number of physicians residing west of old York road and north of Hunting Parkway convened March 15 to organize the Northwest Branch of the Philadelphia County Medical Society. The requisite number of signatures was obtained to a petition for a new branch. Dr. Morris J. Karpeles was chosen temporary chairman, and Dr. Howard D. Geisler, temporary clerk.

Dixon Scores Quacks.—Dr. Samuel G. Dixon, state health commissioner, at a meeting of the college physicians, in discussing Champe S. Andrews' paper on quackery, March 19, advocated revoking the state medical license of the "quack" doctor the moment it was proved that the man was carrying on a business in such a manner as to bring disgrace on the medical profession and harm to the victim of his charlatanism. He suggested the preparation of a bill empowering the state medical board to revoke licenses in certain contingencies.

Health Report.—The total number of deaths reported for the week ended March 24 numbered 586. This is a decrease of 5 from the number reported last week and an increase of 55 over the number reported in the corresponding period of last year. The principal causes of death were: Typhoid fever, 27; pertussis, 3; consumption, 60; apoplexy, 22; acute respiratory disease, 122; enteritis, 25; appendicitis, 7; Bright's disease, 56; marasmus, 4; measles, 18; diphtheria, 7; cancer, 13; heart disease, 50; suicides, 3, and accidents, 10. There were 332 cases of contagious disease, with 34 deaths, as compared with 448 cases and 48 deaths reported in the preceding week.

Personal.—Dr. Montgomery Biggs, chief resident physician of Philadelphia Hospital, has resigned.——Drs. Ralph O. Clock, Thomas Mendenhall and Robert Payne resigned from the resident staff of St. Agnes' Hospital, March 21.——Dr. Carl Vischer is ill at his home with nervous prostration.——Dr. John Marshall, professor of chemistry in the university, sustained a fracture of the leg in a fall, March 23.——Dr. Edward E. Montgomery, who has been confined to his home with bronchial pneumonia, has completely recovered.——Dr. Theodore Fassitt and wife sailed for Genoa, March 24.——Dr. Walter J. Cathrall has been committed to the Philadelphia Hospital for the Insane.

Food Preservation by Chemicals.—Dr. Harvey W. Wiley, head of the government chemistry bureau, made an address at the Philadelphia College of Pharmacy, March 20. He said that the use of chemicals in the preservation of foods is not only harmful, but unnecesary. "Manufacturers only use formaldehyd, etc., because this method is cheaper than sterilization or freezing. Food need not be impure, and I insist that if a manufacturer doctors his wares he should be compelled to admit the fact by the use of a proper label." Dr. Wiley then showed that the accumulative effect of preserved foods was harmful.

Home Treatment of Tuberculosis.—Dr. Thomas H. Mays, medical director of the Philadelphia Clinic for the Home Treatment of Consumption Among the Poor, announces the appointment of a staff of physicians consisting of Drs. John D. McLean, Ralph H. Spangler, J. P. Bethel, Andrew D. Carter and Arthur C. Wolf. Daily clinics will be held between 3 and 4 every afternoon excepting Sunday, for the treatment of chest troubles in patients who are able to walk. Those who are unable to walk and are not under medical care will be visited by physicians and nurses, if necessary, on giving notice at the clinic rooms. The medical service and nurses are free, but a nominal charge for medicine is made to those who are able to pay.

SOUTH CAROLINA.

Personal.—Dr. Francis L. Frost, health officer of Charleston, has resigned and Dr. Henry W. De Saussure has been appointed temporarily to the position, pending election.——Dr. C. Fred Williams, city physician of Columbia, was operated on for appendicitis at the Columbia Hospital, February 25, and is doing well.

New Hospitals.—The new building of the Columbia Hospital has been completed and is in active operation.——The formal opening of Roper Hospital, Charleston, occurred February 19. The new hospital is on the site of the former city hospital and is under the charge of the South Carolina Medical Association, which agrees to care for the pauper and emergency sick and injured of the city in consideration of an annual payment of $28,000.

Unlicensed Practitioners Convicted.—The Greenville County Medical Association scored the first victory in its campaign against illegal practitioners January 29, when "Dr." C. P. Price was convicted of the unlawful practice of medicine. The prisoner is said to have fled the country. The law provides for a fine of not less than $50 nor more than $300, or imprisonment of not less than thirty nor more than ninety days, or both, at the discretion of the trial judge.

Examiners' Fees for Life Insurance.—As the result of the recent action of the Equitable Life Insurance Company in reducing its fee for examinations from $5 to $3, the Kershaw County Medical Society, at a called meeting in Lugoff, February 26, adopted the following resolution:

Resolved, That we revert to our previous fee for life insurance examinations, $5.00 for old-line companies, that pay the fee, and $2.00 for fraternal assessment companies where the applicant pays the fee, and that the secretary be requested to notify all the Societies in the state and the officers of the state medical association, requesting them to uphold us in this matter.

Tristate Medical Association of Virginia and the Carolinas.—The eighth annual session of this association was held February 27 and 28 at White Stone Lithia Springs, S. C. A large attendance of the leading medical men of the three component states were present and a program of unusual attractiveness was given. The great number of excellent papers provoked so much discussion as to practically preclude the reading, save by title, of fully one-half of the papers presented. It is predicted a three days' session will become a necessity another year. The following officers were elected: President, Dr. Rolfe E. Hughes, Laurens, S. C.; vice-presidents, Drs. Isaac M. Taylor, Morganton, N. C.; Wilson E. Driver, Norfolk, Va., and James A. Haynes, Blackstock, S. C., and secretary-treasurer, Dr. J. Howell Way, Waynesville, N. C. The next session will be held in Norfolk, Va., in 1907, the date to be fixed by the executive committee.

TENNESSEE.

Election of Officers.—At the annual meeting of the Memphis and Shelby County Medical Society, March 6, the following officers were elected: President, Dr. James L. Barton; vice-president, Dr. Cummings Harris, and secretary, Dr. J. Wesley Price.

Personal.—Dr. John R. Rathmell, Chattanooga, has been appointed to succeed the late Dr. Edward A. Cobleigh as a member of the state anatomical commission.——Dr. William A. Shafer, Chattanooga, has been re-elected a member of the board of public safety.

Staff of City Hospital.—The mayor of Memphis has appointed Dr. James L. Andrews to the department of medicine; Dr. Frank D. Smythe to the department of gynecology; Dr. Max Henning to succeed Dr. John M. Maury in the department of surgery; Dr. Edward C. Ellett to the department of ophthalmology, and Dr. Alexander Erskine to the department of obstetrics in the City Hospital.

Refuse Low Schedule of Medical Fees.—At the meeting of the Memphis and Shelby County Medical Society, March 6, the following motion was adopted:

Motion.—That the acceptance of the absurdly low schedule of medical fees as proposed by the Maryland Casualty Company is derogatory to the dignity of the profession and that no member of this society should accept the same; also, the proposal of such a schedule of fees by this company is an insult to the medical profession.

Patent Medicines and Counter Prescribers.—The Memphis and Shelby County Medical Society, at its meeting March 20, adopted resolutions unqualifiedly condemning the action of certain druggists in assisting to defraud the public by means of guaranteeing cures by patent medicines, condemning the practice of counter prescribing by druggists, and notifying the druggists of the city that should they persist in these practices they will gain the antagonism of the members of the society.

Rutherford County Medical Society.—At its meeting in Murfreesboro, March 7, the society appointed a committee on public health and legislation, consisting of Drs. Enoch H. Jones, Murfreesboro; William E. Yurhee, Readyville, and Harry C. Rees, Murfreesboro. The delegate to the state medical association was instructed to vote for transactions in book form and not for a state journal. The president appointed a committee composed of Drs. Enoch H. Jones, William C. Bilbro and Rufus Pitts, all of Murfreesboro, to prepare for the coming of the organizer of the American Medical Association, Dr. J. N. McCormack, Bowling Green, Ky., who delivered an address at Citizens' Theater, March 13.

TEXAS.

Fire Loss.—Fire in Amarillo, March 11, destroyed the offices of Dr. John W. Pearson, with a loss of about $4,500, on which there was no insurance.

District Association Meeting.—The Fifth District Medical Association at its meeting at Seguin, March 9, elected Dr. W. A. King, San Antonio, president; Dr. John T. Fitzsimons, Castroville, vice-president, and Dr. R. L. Knolle, Seguin, treasurer.

College Wants Railroad Hospital.—Fort Worth Medical College has made a proposition to the chief surgeon of the Missouri, Kansas & Texas Railroad to add accommodation for 50 patients to the hospital department, provided the road will make use of the building as its hospital in Texas.

Must Not Advertise.—At its last meeting the Tarrant County Medical Association decided henceforth to oppose all forms of advertising by physicians in daily papers, hotel registers and the like; with the exception that when a physician moves his office, he is allowed to advertise the fact for ten days; that when a newcomer locates, he may advertise for ten days; and that a practitioner who has been away from town for two weeks or more is allowed to advertise his return for the same length of time.——The Fort Worth Medical Society, at its meeting, March 7, adopted similar resolutions.

Insurance Examination Fees.—The Hopkins County Medical Society, at its meeting, March 12, adopted the following resolutions relating to fees for examination for accident and indemnity insurance associations:

Resolved, That all fraternal or assessment insurance companies or societies shall pay not less than $3 for each medical examination, and extra for additional work or secondary examinations of urine, etc.

Resolved, That all old line insurance companies shall pay a minimum fee of $5 for each medical examination, and further,

Resolved, That we, as members of the Hopkins County Medical Society will not report on any accident for indemnity or sick benefit for any company or society that does not regard the moral character of its risks

Practice of Medicine Bills.—The Smith County Medical Society at its meeting, March 13, approved, with modifications, the bill to regulate the practice of medicine in Texas, which prescribed more stringent regulation, more strict qualifications, more rigid examinations and a compulsory examination for practitioners from outside the state. It also approved the anatomic bill proposed by the state medical association, which permits medical colleges in the state to obtain bodies of paupers and unclaimed persons for anatomic material.——At a called meeting of the Galveston County Medical Society, March

16, the medical bill was discussed and approved, with amendments. The bill contemplates a state medical board to be made up of representatives from the regular, homeopathic and eclectic schools, and the osteopaths, the representation being apportioned according to the number of practitioners of each school in the state. The state board is to be the examining board, and all practitioners must be examined before this board before being granted license to practice medicine.

Personal.—Dr. V. E. H. Reed, Holland, suffered amputation of a finger on his right hand on March 3, on account of septicemia.——Dr. Pierre M. Kuykendall, Moody, was stricken with cerebral hemorrhage, February 28, and is critically ill.——Dr. E. Brazier Blalock, Woodlawn, has announced his candidacy for the Democratic nomination for lieutenant governor, one plank in his platform being that he will protect the people of Texas from medical quacks and incompetent practitioners.——State Health Officer Tabor is expected to return from Europe in time to attend the meeting of the state health officers of the gulf states, April 2.——Dr. William E. York, Giddings, was seriously injured about the head and shoulders in a runaway accident, March 14.——Dr. Richard H. Harrison, Bryan, has resigned as mayor, to take effect April 1.——Drs. Orlando Patton, Midway, and A. H. Spear, Madisonville, have been appointed inspectors for the United States Public Health and Marine-Hospital Service at Port Limon, Central America, and Colon, Panama, respectively, to inspect the sanitary condition of the cities and their methods of disinfection, etc.

UTAH.

Personal.—Dr. Edward A. Rich, Brigham City, has sailed for Germany.——Dr. Samuel G. Paul has been appointed assistant health commissioner of Salt Lake City.

Hospital's Debt Cleared.—Bishop Spaulding of the Episcopal diocese of Utah has succeeded in raising money to clear off the debt of $40,000, which had been carried by St. Mark's Hospital for several years.

Medicine Hawkers Licensed.—The city council of Logan on March 7 passed a new license ordinance whereby medicine hawkers are required to pay a license of $35 a month instead of $3 per day as before.

Merger.—The *Utah Medical Journal* has been absorbed by the *Denver Medical Times*, which is now to be known as the *Denver Medical Times and the Utah Medical Journal*. The Utah edition will be prepared by local editors, of whom Dr. W. Brown Ewing is chief and Dr. Franklin H. Raley, associate.

County Society Takes Action.—The Salt Lake Medical Society, at its meeting March 13, extended its congratulations to the senators from Utah for their vote for the Pure Food bill and thanked them for their support.——At the meeting of the society, February 18, resolutions were adopted condemning the acquittal of Dr. E. S. Payne, charged with performing a criminal operation on Miss Alice Ferguson, who died from its effects.

WASHINGTON.

New Buildings Opened.—The two new ward buildings at the Western Washington Hospital for the Insane, Fort Stellacoom, have been completed and turned over to the board of control.

Personal.—Dr. Burt Thomas has been elected health officer of Walla Wala, vice Dr. J. W. Ingram, resigned.——Dr. W. James Howells has returned from Europe and resumed practice in Spokane.——Dr. Wilson Johnston has been elected president, and Dr. Robert J. Skaife, secretary, of the Colfax Doctors' Club.

Vital Statistics.—The births in Spokane for 1905 were 1,101, or 418 more than the reported deaths.——Walla Walla reports in 1905 only 27 cases of communicable disease, distributed as follows: Diphtheria, 19; scarlet fever, 4; measles, 3, and smallpox, 1.——Chehalis, with only 26 deaths during the year, equivalent to about 6 per 1,000 of population, claims to be the healthiest city in Washington.

Unlicensed Practitioners Fined.—"Dr." Benjamin E. Hays, an optician, of Tacoma, charged with practicing medicine without a license, pleaded guilty, and was fined $75.——Walter Reed, of Portland, Ore., arrested in Colfax, charged with practicing medicine without a license, paid the costs of the action, amounting to about $25, and the case was dismissed on his promise to drop the title of doctor and to use the title of optician or refractionist.

WEST VIRGINIA.

Fire Damage.—In a fire at St. Albans, which caused a loss of $200,000, the offices of Drs. William A. Heslep and Delafield Hereford, and the residence of Dr. John H. Suntherland, were destroyed.

Personal.—Dr. Gus Capito, Charleston, sailed from New York for Germany, March 10.——Dr. John W. Ramsey, Clarksburg, is seriously ill.——Dr. J. E. McDonald, Logan, is in the Kessler Hospital, Huntington, seriously ill with typhoid fever.——Dr. Thomas F. Downing, superintendent of McKendree Hospital, has resigned, to take effect March 15.

Society Meetings.—The Fayette County Medical Society held its annual meeting at Thurmond, January 26, at which Dr. W. W. Hume, Quinnimont, was elected president; Dr. Laney B. Rupert, Nuttallburg, vice-president; Dr. John W. Hopkins, Fayetteville, treasurer (re-elected), and Dr. Charles F. Mahood, Oakhill, secretary (re-elected).——The Ohio County Medical Association held its annual banquet in Wheeling, January 31. Dr. Samuel L. Jepson, Wheeling, presided as toastmaster.

WISCONSIN.

New Buildings for Sanitarium.—Dr. Richard Dewey, superintendent of the Milwaukee Sanitarium, announces that the two new buildings for the institution, namely, a fireproof ten-room hospital for psychopathic cases, with special provision for hydrotherapeutic treatment, and a convalescent cottage with twelve roooms arranged in suites, will be ready for occupancy April 1 and May 1, respectively.

Oppose Contract Work.—The physicians of Racine as a body, including practitioners of all schools, have pledged themselves not to take any more contract work, insurance, lodge or otherwise, during this year. The opposition raised by certain lodges, factories and insurance companies has now subsided, as the local press has made it clear to the public that the people will be the gainers by doing away with medical contracts.

Supreme Court Decides Against Student.—In the case of Robert A. Burg, a dental student, against the Dental Department of the Milwaukee Medical College, in which he asked a mandamus to compel the institution to grant him a diploma, the Supreme Court reversed the decision of the lower court and quashed the writ of mandamus. The college authorities claimed that the plaintiff was notified of the ruling of the State Board of Examiners that the custom of allowing entrance requirements to be completed during the first year had been abrogated, and that students deficient in entrance requirements were required to make them up before the close of the first semester.

Personal.—Dr. W. A. Gordon, Jr., Oshkosh, has been appointed assistant surgeon of the Wisconsin National Guard, with the rank of first lieutenant, and has been assigned to the Second Infantry.——At the meeting of the Brown County Medical Association in De Pere, March 15, Dr. Frec. N. Brett, Green Bay, was elected delegate to the state medical society, and Dr. Alphonse M. Kersten, De Pere, censor.——Dr. Charles Schoenfeld, LaCrosse, sailed for Europe, March 28.——Dr. Albert P. Minshall, Viroqua, was seriously burned in the face and wrists by the explosion of a furnace in his house, February 27.——Dr. Louis Fuldner, Milwaukee, and Dr. Moses J. White, Wauwatosa, have returned after a two weeks' trip to Cuba.——Dr. Oscar Loehr, Milwaukee, has returned after a six months' visit in Europe.

GENERAL.

Medico-Psychological Association Meeting.—The sixty-second annual meeting of the American Medico-Psychological Association will be held in Boston, June 12 to 15, 1906. The chairman of the committee of arrangements is Dr. George T. Tuttle, Waverly, Mass. The secretary of the association is Dr. Charles W. Pilgrim, Poughkeepsie, N. Y.

Health Report of the Isthmus for February.—In his report of the health conditions on the Isthmus during February, Colonel Gorgas states that still another month has passed without a case of yellow fever, and that the Canal Zone is equally free from other quarantinable diseases. Among the 23,000 employés, on an average 472 were in hospital daily; a sick rate of 20 per mille. He believes that this is an excellent showing. During the month there were 56 deaths. Of these 7 were white and 49 were negroes. There were only 11 deaths from pneumonia. The sanitary work was carried on as usual.

FOREIGN.

Calendars as an Advertising Medium for Nostrums.—The governor of Minden, one of the German states, has ordered the various local authorities to pay particular attention to the advertising of nostrums, etc., on calendars and in pamphlets, and to prosecute in case they conflict with the regulations.

Jubilee of the Turkish Imperial Society of Medicine.—The jubilee meeting of this society was held during the first week in March.

The **Soldiers' Teeth.**—The British war office has announced that an additional dental surgeon is required for duty with troops in the United Kingdom from April 1 next. He will be required to devote his entire time to military duty and will receive a salary of £365 ($1,825) per annum, and traveling expenses.

Pathologic Laboratory for the Women's Hospital in Melbourne.—At a recent meeting the hospital committee of the Women's Hospital of Melbourne, Australia, took under consideration the advisability of establishing a laboratory under the charge of a competent pathologist who would be required to attend the hospital on all operating days and at such other times as might be necessary.

To **Feed Indigent School Children.**—A bill has been introduced into the English house of commons, having for its object the feeding of poor school children. The bill met with a favorable reception at the hands of the minister for education. The principle of the bill will probably be embodied in the new education bill and the only remaining question is the source from which the money is to be drawn.

In **Memory of Semmelweis.**—The Medical Club of Budapest has voted to have an artistic tall drinking vessel made as a memorial to Semmelweis, to be used only on great occasions, when the "pokal" will be handed around with great ceremony. It will be used first at a banquet to the memory of Semmelweis, on his anniversary; and in the following years, only when some important medical or scientific question is to be discussed or tribute paid to some departed notability.

Out-Patients and Fees.—In order to check to some extent the abuse of the out-patient departments of the large London hospitals, it has been suggested that a small fee be charged each out-patient after the first visit. This suggestion, however, did not meet the approval of the members of the council of the Metropolitan Hospital Sunday Fund, who were of the opinion that any abuse that may already exist could be effectually met by an efficient system of investigation conducted by a competent staff engaged in visiting the homes of the patients

Clinic Sued for Damages from Carelessness of Nurse.—A nurse at the University Clinic at Bonn gave a caustic powder by mistake to a patient who had entered the clinic for an operation the next day. The action of the caustic caused injuries which still persist to a certain extent, and the patient sued the university for $3,000. The university claimed that it was a state institution and not individually responsible, but the local and supreme courts decided that the university was legally responsible for injury resulting from carelessness in its clinic and sustained the claim for damages.

Juvenile Smoking Bill.—A bill has just been introduced into the British parliament designed to carry out the unanimous recommendation of the physical deterioration bill: 1, To prohibit the sale of tobacco and cigarettes to children below a certain age; 2, to prohibit the sale of tobacco and cigarettes in candy or other shops frequented by children. The operative clause would enact that any person selling, giving or supplying tobacco in any form to or for the use of any person under the age of 16 would be liable to a fine on first conviction not exceeding $5 and on further conviction not exceeding $10.

The **Organized Profession in Germany.**—The semi-official societies that insure against sickness (Krankenkassen), of the city of Münster recently refused to grant the request of their medical officers for increased remuneration and introduction of "free choice" of physicians by patients. It was one of a few places where the old rates still prevailed. The medical officers resigned in a body, and the companies tried to attract outsiders to take their places. They were unable to procure enough medical attendants for their sick policy-holders, and the municipal authorities promptly interfered and closed a contract with the former medical officers on the latter's terms.

Protection of Nurses.—For some time the view has been gaining ground in Great Britain that nurses should be registered. Nursing calls for special skill, technical ability and a thorough training. The public, of course, is no judge of the qualifications, and in consequence the calling is greatly abused. Many women who pose as trained nurses are impostors and in some instances moral delinquents against whom protection is necessary. There can be no doubt but that registration would be of benefit to the public as well as to genuine nurses. A deputation holding these views recently waited on the president of the privy council, requesting that steps be taken to provide legislation to meet the case. The minister, without binding himself to any definite promise, held out hopes that the government would consider the matter, and that ere long the registration of nurses would be secured.

Sixth International Congress of Applied Chemistry.—One of the eleven sections of this congress, which will be held at Rome, April 26, is to be devoted to medicine. The medical section is in charge of Prof. E. Paterno of Rome. It is to be divided into subsections for medical hygiene and chemistry, pharmaceutical chemistry and bromatology or the science of alimentation. The five preceding congresses were held at Vienna, Berlin and twice at Paris since the first congress at Brussels in 1894. The Italian state railroads and navigation companies allow a reduction of 40 or 60 per cent. to members of the congress.

A New Morgue for Sydney.—It is reported that Sydney, Australia, is at last to have a new morgue. The *Australasian Medical Gazette* states that ever since the South Sydney morgue was destroyed because the site was required for the new railway station, the only available morgue has been the old North Sydney morgue, and that the building is not only ridiculously inadequate, but that it is also out of date as an institution for the important medicolegal work which must be done there. Plans have been prepared for the erection of a coroner's court-house and offices and a morgue, but only the latter is to be completed at present.

Dentists for Public Schools.—The city of Ulm, Germany, has decided to install a school dentist, who will examine and treat the children's teeth as occasion demands, giving up private practice. Investigation showed that only 2 per cent. of all the boys in the high schools and none in the primary schools had ever had their teeth examined by a dentist. Among the girls the findings were more favorable, over 36 per cent. in the high schools and a few in the primary schools having been examined. Fillings were found in from 3.3 to 16 per cent. The question as to what proportion of the dental work shall be done free of charge is not yet decided. The experiment of school dentistry has proved successful at Strassburg. It is said that only 160 children with sound teeth were found among 2,103 between the ages of 6 and 8, while the number was only twice this in a corresponding number of children between 3 and 6. Headache, earache, stomachache, as well as toothache, have nearly vanished from the schools since this system of compulsory dentistry was established.

Inspection Under the New Aliens Act.—The new aliens act which came into force in England in January has already had the effect of excluding many "undesirables." Since this act has been law immigration to Great Britain has been greatly curtailed, a significant feature being that scarcely one case of trachoma has been seen among immigrants in London. The act, too, has had the result of drawing attention to the disgraceful way in which some of the immigrants are brought to London. Dr. H. Williams, medical officer of health for the port of London, recently gave extracts from the report of the sanitary authorities with regard to the accommodation provided for aliens on some ships. One ship in particular, which came from St. Petersburg, carrying 305 alien steerage passengers, was in a filthy and offensive condition. The available air space per capita was only 60 cubic feet and floor space 8 square feet. No provision was made for the separation of the sexes. Ventilation and lighting were unsatisfactory, provisions insufficient, and in the event of bad weather the passengers had to be confined to the quarters, as the after-deck was wholly occupied by horses.

Abortionists' Advertising in Spain and Belgium.—At a recent session of the Spanish Senate, Dr. A. Pulido, now prime minister, formerly chief of the National Sanitary Service, and one of the editors of the *Siglo Medico*, called the attention of the legislators to a crime which he said is being committed constantly in the most cynical and scandalous manner. As an instance of the class of crimes to which he referred, he read an advertisement from a daily paper as follows: "Menstruation appears after taking three times the Dr. Paris prescription, whatever may be the cause of its suppression. In short," he continued, "the crime is that of abortion, against which four special laws have been enacted. This crime is practiced with such frequency that if it were possible to ascertain the number of victims, society would be horrified. I am certain that I am not exaggerating when I state that there are persons who have committed this crime forty, fifty and up to sixty times. There is no way to prosecute them, when such advertisements as this are allowed to be published in the papers. The daily press publishes them without giving thought to their contents; they are merely one among a certain number of ads. The penalties provided

evidently do not fit the case, as such advertisements are constantly recurring, some of them announcing hours for consultation at which what is left unsaid in the advertisements is realized." He called on the highest authorities in the cabinet to take up the matter officially, and it was formally referred to them. His address is given in full in the *Siglo Medico* for March 3, 1906.

Relief for London Hospitals.—A new proposal has been made for relieving the expenditure in London hospitals. Mr. Sidney Holland, secretary of the London Hospital, in Whitechapel, explains that much of the burden is due to the great expense of modern surgery, and to the lower middle classes having neither money nor the house room for serious operations. Many people who could afford to pay a certain sum can not bear the expense of going to a satisfactory nursing home and are compelled to enter a hospital when they need surgical care. Mr. Holland proposes that a large hospital be built where accommodation may be obtained, either expensive or cheap, but where the patient is to deal directly with his surgeon on a professional and not on a charitable footing. The argument is made that the carrying out of such a plan would free the charity hospitals from liabilities which do not rightly belong to them, and at the same time give many people a real alternative to charitable treatment. It must be borne in mind that unlike the hospitals of America, nearly all hospitals in Great Britain are free, and that only a few admit paying patients. There are in London itself only two hospitals in which are private wards; of these St. Thomas' is the best known. The really serious criticism which has been raised with regard to the scheme has to do with the financial arrangement. It is doubted whether the best surgeons would feel inclined to meet the proposal by a reduction of their fees in proportion to the purse of the patient with a limited amount of money to spare. It has been suggested that a public meeting should be called to consider the proposal either in the city of London or in the city of Westminster.

Passive Resistance in Lower Austria.—Representatives of all the medical organizations in lower Austria held a mass meeting at Vienna, March 3, to manifest their sympathy with the united stand recently taken by the country practitioners in protest against the absurdly low remuneration allowed by the national authorities for certain medical duties. The organized stand taken by the profession in Austria was mentioned recently in these columns, page 736. At the mass meeting funds were raised and the representatives of the various medical councils pledged their influence to insure the organized backing of the profession at large. Appeals have been made to the central authorities on behalf of the physicians by the various communities, several uniting in a petition which comments appreciatively on the fact that the physicians have held high the standard of humanity during their dispute with the authorities, not stinting their services to the sick, the poor or to the communities at large. Their "passive resistance" merely affected certain of their functions, and although their procedure caused the state officials and the district boards of hygiene a vast amount of trouble, yet suffering humanity was not affected by it. The plan of "passive resistance" is merely to report to the authorities every case of suspicious disease, without stating the diagnosis, as "suspicion of sepsis or diphtheria" or "suspicion of scarlet fever or measles." The district board is compelled by law to send the district physician to every case of infectious disease in which the attending physician is not sure as to the diagnosis. The petition further states that the efforts of the physicians in question (the "Gemeindeaerzten") have the deepest sympathy of the subscribing communities. They appeal to the central authorities to hasten to put an end to the present unbearable condition of the physicians by revising the present laws on the subject to harmonize with the frequently expressed wishes of the medical profession, and to inform the medical profession of this intention so that the passive resistance may be brought to an end before the country loses all its country practitioners. The Leipziger Verband of Germany has given $5,000 to help the cause, and our Vienna exchanges comment on this gift as not only a generous and welcome material aid, but as inserting a leaf of gold in the history of the medical profession. It adds that a brilliant example is given to all the members of the profession by this act of medical solidarity.

LONDON LETTER.

The Institute of Medical Sciences.

The project of the University of London to centralize the preliminary teaching of medical students, which is now carried out, often under difficulties at the various hospitals, is progressing. The university has decided to establish, as soon as funds are available, a school of preliminary medical science, including anatomy and physiology, at South Kensington. Toward the building fund the Goldsmiths Company has given the sum of $50,000, which raises the amount now obtained to more than one-half of that required to begin building operations.

The Royal Institute of Public Health.

This institution was formed recently for the purpose of instructing all persons interested in the subject of public health. It consists of a library, museum and laboratories. Arrangements are made for the delivery of a series of lectures by well-known authorities. A number of mayors and the principal officials of London boroughs as well as some from outlying districts were invited to inspect the chemical and bacteriologic laboratories. These laboratories were instituted about a year ago with the view of enabling physicians and others (such as sanitary inspectors) desirous of securing a public-health qualification to receive suitable training, and also as a place where municipal authorities and others would have the opportunity of obtaining reliable chemical and bacteriologic reports and advice. So far, the advantages of the laboratories have been sought to a considerable extent, and it was with a view to make their utility better known that this inspection took place. A number of experiments by which adulteration is detected were shown also, and an address on the objects of the institute was delivered by Prof. W. R. Smith, the president.

The Administrative Control of Phthisis.

The local government board of Scotland has issued an important circular which is the first official statement that local authorities have serious responsibilities and powers in regard to the control of pulmonary tuberculosis. As the disease is recognized as infectious, it is pointed out that the provisions of the public health act regarding infectious diseases apply to it. These include the arrangement of proper premises and apparatus, and attendance for the disinfection of bed clothing, etc., and the disinfection of rooms or houses, with powers of entry, when necessary, to disinfect and to destroy infected articles. When patients with phthisis are treated at home the board recommends that the local authorities insist on the disinfection of the house at frequent intervals. The importance of thorough disinfection is emphasized and it is insisted that it should not be left to the friends of the patient or fellow-workmen, but should be carried out by skilled officers. Disinfection is also recommended in connection with all places of public resort (schools, churches, halls, theaters, markets, railway stations and public conveyances). Special attention is directed to the suppression of spitting and the disinfection of sputum. Local authorities are assured that they have power to prevent infected persons from exposing themselves in streets or public places without proper precautions against spreading the disease. The establishment of tuberculosis dispensaries, hospitals for early cases (sanatoriums), reception houses or hospitals for patients in an advanced or dying condition, and colonies and homes for convalescent patients able to work but requiring medical supervision, are sanctioned.

The Purity of Potable Spirits.

Largely because of its persistent advocacy by the *Lancet*, a most important reform has been introduced in regard to the purity of potable spirits. For years brandy and whisky have been sold mixed with cheaper spirits of other kinds and no question was ever raised as to adulteration. In 1902, in a report of a special commission on brandy, the *Lancet* expressed the hope that the chemical analysis of spirits would be conducted with greater attention to detail than had been given to it by public analysts. Numerous prosecutions were then instituted against persons who sold under the name of brandy concoctions containing cheap spirits made from grain and other substances, and convictions were obtained. Attention was then directed to whisky. The health authorities of the borough of Islington have just prosecuted vendors for selling, in one case Scotch and in the other case Irish whisky, which contained a large percentage of patent-still (otherwise silent or neutral) spirit. The case was very protracted and an enormous amount of evidence was given on both sides. The witnesses comprised physicians, chemists, distillers and various trade representatives. The analyst for the prosecution fixed as the result of examination of a great number of genuine whiskies the minimum coefficient of secondary products at 380 parts per 100,000 of absolute alcohol. In the disputed example of Scotch whisky the coefficient was 110.5 and in that of Irish whisky 174.5. The inference was that each sample consisted

of patent-still, silent or neutral spirit. This agreed with evidence of a witness called for the defense who supplied the spirit. He stated that the sample was practically young patent spirit with a "dash" of pot-still malt spirit. In the opinion of the judge, spirit produced in a patent still from a wash consisting to a large extent of maize to which a "dash" of true whisky made from barley malt in a pot still had been added is not whisky. Notwithstanding that much evidence was given to show that the public preferred a blend made in this way to true whisky the defendants were convicted. The sale of such a spirit is not illegal, but it must not be termed whisky; its nature must be stated on the label.

Vagrancy and Disease.

The departmental committee on vagrancy has just issued a valuable report which deals exhaustively with the whole subject. It includes a historical survey of the attempts to deal with vagrants from 1495 to the present day. At the periods of trade depression there are in England and Wales from 70,000 to 80,000 vagrants, and in good times as many as 30,000. Like many other of our methods of government, the mode of treating vagrants is inconsistent and illogical. "Between the poor law and the police the vagrant has flourished. The police treat him as a criminal, but do not punish him, and the poor law authorities treat him as a pauper, but do not relieve him." It is now decided that vagrants are to be handed over to the police authorities. The bona-fide seeker after work will . . helped to find occupation and each police station will become an office of information as to the work of the district. On the other hand, the professional tramp will be sent to a labor colony for six months or even three years in order that he may learn to work and be cured of his habit of vagrancy. The tramp has long been recognized as a spreader of infectious disease. Dr. Armstrong, health officer of Newcastle-on-Tyne, has shown the great part played by tramps in the diffusion of smallpox. In 1893 smallpox was first introduced by vagrants into 58 per cent. of 63 large towns and was carried sooner or later into 72 per cent., on an average about five times to each town. In this way the disease was taken to 30 workhouses and to 70 common lodging houses. The dissemination of the disease was mainly due to tramps suffering from it in the modified form. In the workhouse the bath and the disinfection of clothing are a protection against the conveyance of disease by the tramp, but many more tramps come from common lodging houses where these protections do not exist. The report endorses Dr. Armstrong's suggestion that by-laws should be adopted for common lodging houses, and that they should be watched by sanitary inspectors. Another interesting point in the report is the dietary for casual wards and labor colonies. In investigating this subject valuable assistance has been received from Professor Foster and Dr. Hopkins of Cambridge. Guided by them, the committee has taken 70 gm. of proteid and 3,000 calories as the standard of diet for the casual wards and labor colonies. This reduced standard is due to the results of the recent investigations of Professor Chittenden and others. A considerable economy will be effected by adopting this standard. It is calculated that the diet need cost only 40 cents a week. Under the old standard the cost was $1 or $1.25.

Action Against Physician for Conveying Scarlet Fever to a Puerperal Woman.

A remarkable case has just been decided in the courts which, in consequence of its widespread importance to the profession, has attracted much attention. A physician was called to a case of scarlet fever, after seeing which he went home and disinfected his hands. Two hours later he was summoned to a case of labor. On the fifth day the woman developed scarlet fever. The woman's husband alleged that the doctor conveyed the disease to her and claimed damages for negligence. For the plaintiff it was urged that a puerperal woman was specially liable to infection with scarlet fever in a specially malignant form and that more complete precautions against conveying infection should have been taken. Counsel supported this view by reading extracts from the writings of Dr. Galabin and Dr. Boxall, but as he did not call these authorities, the judge ruled that this was not evidence. On the other hand, Drs. Herman and Hunter were called for the defense and stated that a puerperal woman is neither more nor less liable to scarlet fever than other people; that puerperal scarlet fever is rare and that it is not more dangerous than scarlet fever apart from the puerperal state. The next point in the plaintiff's case was inspired by the writings of Dr. Boxall, who stated that the following precautions should be taken after visiting a case of scarlet fever before going to a case of labor: "1, A disinfectant bath; the whole body should be immersed, the head above all, for the hair is a veritable network to entangle the poison; 2, a complete change of clothing; 3, active outdoor exercise." The physician, according to his evidence, after seeing the case of scarlet fever, walked home, a distance which occupied about five minutes. He found a message to go to the case of labor. He disinfected his hands and arms with izal and changed his coat. He visited another patient, walking about a quarter of a mile, and took a cab and drove a distance of two and one-half miles to the patient's house. He went in and shook hands with her. Then he retired to an ante-room, took off his coat, scrubbed his hands and arms with soap and water and repeated the process in a solution of corrosive sublimate, and finally rinsed them in a solution of izal. After putting on rubber sleeves, which he had previously disinfected, he examined the woman. Two physicians were called for the plaintiff and stated that a physician should transfer a case of labor to another if he was called to attend it within two hours of visiting an infectious case. This would be their own course. They considered that in order to disinfect himself a physician should change all his clothes and take a bath. For the defendant a large amount of medical evidence was called, including Dr. Herman (London Hospital), Dr. Hunter (London Fever Hospital), and Professor Spencer (University College Hospital). They all agreed that the precautions taken were the ordinary ones and quite sufficient, though there were more complete ones, such as those described, but that these were impracticable in general practice. None of these witnesses agreed with the opinions quoted from Dr. Boxall of the special susceptibility of the parturient woman to scarlet fever. The jury gave a verdict for the plaintiff.

Medical Legislation

New York Practice of Medicine.

The position taken by the Educational Department of New York state regarding osteopathy is shown in the following extract from a communication sent to the members of the legislature by Mr. H. J. Rogers, first assistant commissioner of education: In our opinion the state should not recognize any school of practice in medicine any more than any special creed or cult. Medicine is so rapidly developing into an exact science and depends so completely on the latest discoveries in biology and kindred sciences that the only logical position which it seems to us the state can assume concerning those who are to practice the healing art in any form on their fellow-men is that they shall, first, receive a thorough preliminary education; second, a thorough professional education—the requirements of both to be fixed by the state; third, to be licensed to practice medicine. They will be thus fitted and left free to choose any form of practice which may appeal to their judgment.

The Medical Society of Erie County has also sent a protest against the osteopathic bill to every assemblyman and senator in the state. The society denounces the bill as a pernicious measure, believing that its passage would lead to evils so great as to be criminal in character. It recognizes that the main object of the bill is to legalize the practice of the thousands of osteopaths now practicing in New York rather than to provide for the education of others in the future. The bill is also considered objectionable because it provides for a multiplication of examining boards and for three separate standards or requirements for the practice of osteopathy.

Blister Sign of Death.—Dr. Ott of Lillebonne has found the "explosive blister" a valuable means by which to distinguish between real and apparent death. He has simplified Marteno's technic and has found the test practicable and reliable. The forearm is drawn out horizontally, allowing sufficient space between it and the ground for a candle. The flame of the candle or of a taper or match is then held beneath it, allowing the flame to touch the skin on the anterior aspect of the forearm. In a few seconds an air blister forms and bursts, but there is no fluid. If the person is still alive, an ordinary blister inclosing serum forms instead of the dry, explosive-gas blister.—*Gaz. Méd. Belge*, Feb. 22.

Correspondence

Pauper Fees by Wealthy Corporations.

MARYLAND CASUALTY COMPANY.
Office of the President.

BALTIMORE, March 10, 1906.

To the Editor:—Your issue of March 3 contains a letter from Dr. C. H. Emery regarding the schedule of fees this company is paying physicians for immediate surgical attention to injured persons for whom we agree, under our policies, to obtain such service. You have appended to Dr. Emery's letter certain comments. The letter and the comments are of such a nature that they may possibly work some injury to this company, if allowed to go without reply. You will, of course, as a fair journalist, give to this reply equal prominence to that which you gave to Dr. Emery's letter and your own comments.

I am at a loss to understand why a matter of this kind should be thought by any one a proper subject for newspaper publication. It is purely a matter of agreement or disagreement between two parties. If one of the parties (the company, for instance) finds that the other party (the doctor) does not see his way clear to work at the fees offered, it would be a foolish and unbusiness like proceeding to rush into print with a tirade against the doctor as an extortioner. And it is equally so for the doctor and the editor to indulge in heroics because they think the fees offered are too small. If the time and skill of Dr. Emery are worth, in his judgement, taking all the features of the question into account, more than the company offers, he has an unquestioned right to decline the offer. If another doctor believes it is to his advantage to accept the offer, all things considered (although probably he would be entitled under ordinary circumstances to larger fees), it would be a piece of impertinence for any one to criticise him for doing so. The attitude of the good Dr. Emery and of your esteemed editorial self is in its essence the attitude of the trade unionist and walking delegate who assume to say that no man shall work for a figure other than is fixed by "the union." It is un-American and unreasonable.

This is the way the matter is viewed by the very large number of doctors who have agreed to the fee schedule which our good friend, Dr. Emery, and yourself criticise so unmercifully.

JNO. T. STONE, President.

[We are glad to give Mr. Stone's letter a place in our columns, as it is a fair example of the policy of insolence and greed governing many of those holding high positions in the insurance world in their dealings with medical men. It is strange, however, that our correspondent can not understand why he and his company are not left unmolested to deal as they please with the helpless individual doctor, or why an organ representing the physicians of this country should comment on the injustice which they are perpetrating on the profession and advise its readers to resent it.

It is notable that none of the deserved criticism and disgrace which insurance officials recently have brought on themselves has attached to their medical departments. Even in the home offices the medical men have been poorly compensated as compared with the lay officers, and yet, on false and specious pleas, the medical examiners have been asked to bear a disproportionately large share of the first steps in economy. Without the courtesy of a conference or the opportunity for protest, medical men who had spent years of time and much money in preparation for their duties and who had always been poorly paid, were cut 40 per cent. in their fees by a stroke of the pen.

One of these same institutions has recently employed a man as president at a salary of $80,000 a year, who has had no training for the position, and who had been serving his country for $8,000 a year. As his predecessor's salary had been $100,000 a year, he at once announced that he had generously cut his own salary 20 per cent. and that other salaries in the home office would be scaled at the same rate, but the medical examiners, who appear to have had no friends at court, were to be sliced 40 per cent. At least this is what the Maryland Casualty Company has done.

In justification, the plea is made that assessment and cooperative companies and lodges, heretofore condemned as unworthy of confidence and discussion, have never paid decent fees to physicians. In the face of this record we confess that the talk about trade unions and walking delegates only make the impression on us of an impertinence.

There was a time when the medical men had no organization and hardly dared to make even a protest. It is very different now. We now have approximately 50,000 members in our county societies reaching into 2,400 of the 2,830 counties in the United States, and by concert of action can control the situation over a large part of the country.

It should not be difficult to see that cheap doctors, which usually spells "uneducated doctors," are as dangerous as insurance examiners as they are as family physicians. We therefore suggest that physicians make no reply to such communications from any source regarding cut-rate fees for their services. Proper dressings could hardly be furnished for the fees proposed in the schedule of the Maryland Casualty Company, and no self-respecting physician ought to sell his services to such a corporation at wholesale and have them retailed to the people of his own community at prices which have enabled these companies to amass a fortune and until recently to defy public opinion.

It is hardly necessary for us to say that we heartily favor legitimate insurance, both accident and life, but it is a public business and a fair subject of criticism, and Dr. Emery did both the profession and the people a service in bringing this great mistake in policy to our attention.—ED.]

Race Suicide (Criminal Abortion).

FORT COLLINS, COLO., Feb. 24, 1906.

To the Editor:—For some time there have been many criminal abortions performed in our city, and the thought occurred to me that by getting the physicians and ministers together and formulating a statement as to the gravity of this crime we might do something to check it. A meeting was called and the statement I send you was formulated and signed by the persons whose names are appended.

The intention was to have a lot of these printed so that each physician could have a supply and distribute them where he thought they would do the most good. While we have not yet carried out this last part of our plan, I believe our action has had an excellent effect on physicians who had been doing or might be induced to do that kind of work.

E. STUVER.

STATEMENT.

Human life is the most sacred thing in the world. So deeply is this fact grounded in our very being or nature that all civilized nations have enacted stringent laws protecting human life and prescribing severe punishments for those who destroy it. In spite of these facts there is a misapprehension on the part of some and an evasion on the part of others, as to the time in the development of the human being when these legal enactments and moral obligations become operative and of binding force. Human life with all the potentialities of the fully developed human being begins just as soon as there is a vital union of the male and female generative elements, and the destruction of this life, no matter how lowly the form or early the stage of development, is just as much the destruction of a human life as it is to kill an infant, a child or an adult.

Believing it to be the duty of all intelligent and progressive men and women to do everything in their power to encourage and to promote good, to lessen evil and to transmit unimpaired to their descendants the heritage they have received from the past, we desire to call attention to one phase of the race-suicide problem which has permeated the whole fabric of our society and is causing more suffering and death than all the wars of the world put together. Operating as it does by secrecy and stealth, it is undermining the very foundations of morality and religion, and is becoming a serious menace to the health and perpetuity of the race.

We further believe that many women, who do not fully understand the gravity of the crime nor the dangers that attend its performance, suggest or insist on it themselves or allow

themselves to be persuaded to have it done by the cowardly, conscienceless criminals who do this kind of work. It is almost needless to say that we refer to criminal abortion. Abortion is the destruction or expulsion of the fetus or child at any stage, from the very beginning of its existence to the age of viability or the time when it can be born alive and survive, and every abortion deliberately produced, unless absolutely necessary to save the life of the mother, is criminal. Even in those desperate cases where such an operation is necessary, it should only be done after a careful investigation and consultation between two or more regularly licensed physicians.

All civilized nations brand this as a most serious, unnatural and revolting crime, and their laws provide for the punishment of the offenders. It is an outrage against God, man and Nature, and leaves a broad trail of death, suffering and moral degradation in its track. Every year thousands of mothers yield up their lives, victims to this dread Moloch and thousands more who do not die at once, drag out a miserable, invalid, childless existence, tortured by remorse and unavailing regrets for what has been done. Doubtless, in the darkness of the night, the forms of their murdered children rise up before their terrified souls, and like the guilty stain of Lady Macbeth, will not disappear, making their lives one long, dark tragedy unillumined by hope.

We, the physicians and clergymen of Fort Collins, occupying as we do, positions of responsibility because of our peculiar relations with the people, feel that we are in duty bound to express ourselves on this subject.

E. STUVER, M.D.
L. W. FEE, M.D.
G. R. GILBERT, M.D.
B. F. RELLOGLE, M.D.
A. W. ROTH, M.D.
J. J. HALLEY, M.D.
S. C. HALLEY, M.D.
J. D. KERLIN, M.D.
F. J. MCHUGH, M.D.
W. A. KICKLAND, M.D.
J. E. DALE, M.D.
E. L. SADLER, M.D.
C. M. HAVILAND, M.D.
S. T. QUICK, M.D.
A. W. KILLGORE, M.D.
GEO. L. HOEL, M.D.
REV. J. W. SKINNER.
REV. GEO. P. AVERY.
REV. I. N. MONROE.
REV. SAMUEL R. WILLSON.
REV. J. THOMA CROW.
REV. L. C. WOODFORD.
REV. PAUL BURKHARDT.

The Climate of Egypt.

CAIRO, Egypt, March 7, 1906.

To the Editor:—One is much amused at hearing tourists', and especially invalids' criticisms of this climate. Of course, if one comes here with the idea that the sun shines continually, that the air is always dry and warm—neither too warm nor too cool—and that he or she can wear summer clothing during the day and evening, the idea will soon be dissipated.

There are cold days on which the temperature drops to 30° at times, and there are cloudy days with sometimes rain. On the whole, however, one can not growl at this climate. I find the main trouble to be that when the air is cold the indoor life is almost intolerable because there are no heating facilities. In America the houses are always very warm. Small petroleum stoves are really sufficient to make the rooms here quite cosy on the coldest days.

During the summer the days are hot, but generally the evenings are cool. In the beginning of the summer, during the American spring, we have the (Khamseens) "fifty days," in which time the hot sand storms occur. When physicians send patients to Egypt they should advise them to go to Asswan during the months of December, January and February, and to spend the other month of November or March in Cairo—or rather Helwan. Of course this arrangement is very expensive, but to send patients here and allow them to go to upper or lower Egypt as they please is harmful to the patients as well as to Egypt's reputation.

An American rheumatic patient came out this winter and at once went to Asswan, stayed a few weeks, and came back to Cairo in February, stopped at a hotel in the business part of the city, and had rooms on the ground floor looking out on the well watered garden. Of course his rheumatism was benefited!

Visitors to Cairo should be prepared to find no garden of Eden, but they can be much benefited by this beautiful farming country with the desert its near neighbor. Fresh vegetables and fresh fruits are always obtainable. The people are picturesque and can teach us patience by their "Praise God!", "If God wills!" and "Tomorrow" expressions.

The history of the ancient Egyptians, Greeks and Romans is vividly portrayed by the temples, tombs, forts, etc., and there are also the picturesque Arabic architecture and the museums, rich with the finds of Egyptologists. I add this table of the mean maximum shade temperatures of Cairo (recorded for 18 years), Alexandria (recorded for 21 years), and Asswan (recorded for 4 years). This will show how one can find the warmth and escape the heat and coolness.

	Cairo.	Alexandria.	Asswan.
January	66-64 F.	cooler	78-70 F.
February	68-71 F.	cooler	80-84 F.
March	72 78 F.	cooler	84-91 F.
April	82-86 F.	cooler	92-103 F.
May	88-94 F.	77-81 F.	hotter
June	94-96 F.	81-83 F.	hotter
July	97-98 F.	84-86 F.	hotter
August	96-93 F.	87-86 F.	hotter
September	92-88 F.	86-84 F.	hotter
October	88-84 F.	83-80 F.	hotter
November	80-73 F.	77-73 F.	hotter
Decemoer	70-67 F.	70-67 F.	82-78 F.

This shows that the climate of Cairo is not bad in March, April, October and November. Asswan is agreeable in January, February and December; and during the summer months Alexandria is quite pleasant. Of course Alexandria is not so dry as Cairo and Asswan.

J. M. KEICHLINE, M.D.

Marriages

REBA LLOYD, M.D., and Charles E. Kump, both of Bridgeton, N. J., March 22.

JAMES RUSSELL BASS, M.D., to Miss Sue Virginia Tilton, both of New Orleans, February 24.

RUSSELL B. CHACHERE, M.D., to Miss Ethel Ellen Edwards, both of Opelousas, La., March 15.

WILLIAM B. MCCASKILL, M.D., Idabell, I. T., to Miss Kitty Adams of Argo, Texas, March 19.

D. F. REEDER, M.D., Paducah, Ky., to Miss Minnie Sargent of Sharp, Ky., at Cairo, Ill., March 17.

WILLIAM H. KIRK, M.D., Amory, Miss., to Miss Nellie Douglass Thomas of Memphis, Tenn., March 8.

WILLIAM TRAY BIVINGS, M.D., Atlanta, Ga., to Miss Helen Earl Randall of New York City, March 15.

TOM B. TODD, M.D., Richards, Mo., to Miss Nell Welborn of Sweet Springs, Mo., at Nevada, Mo., March 15.

LEROY R. STODDARD, M.D., New York City, to Miss Caroline E. Williams of Detroit, Mich., in New York City, March 14.

Deaths

William Turner Bacon, M.D. College of Physicians and Surgeons in the City of New York, 1871; a member of the American Medical Association, American Ophthalmological Society, Connecticut Medical Society, Hartford County Medical Society; formerly president of the Hartford Medical Society; formerly assistant in physiology in the College of Physicians and Surgeons, and curator to the Charity Hospital, New York City; ophthalmic and aural surgeon to the Hartford Hospital; consulting surgeon to St. Francis Hospital; one of the most eminent specialists in diseases of the eye and ear of New England, died at his home in Hartford, Conn., March 16, from kidney disease, after an illness of several years, aged 59.

Robert Ogden Doremus, M.D. New York University, New York City, 1851; a member of the American Medical Association; eminent as a chemist for more than 50 years; assistant to Dr. John W. Draper from 1843 to 1850; professor of chemistry and physics for many years in the College of the City of New York; a frequent contributor to the medical and scientific press; a member of the advisory commission of the department of health of New York City; since 1861 professor of chemistry in Bellevue Hospital Medical College; an expert on poisons; inventor of the system for disinfecting ships which has been in use in New York harbor for 40 years, died at his home in New York, March 22, from arteriosclerosis, after an illness of ten days, aged 81.

Frederick W. Achilles, M.D. University of Iowa, Medical Department, Iowa City, 1874; a member of the American Medical Association; formerly professor of chemistry and secretary of the faculty of the Medical College of Evansville, Ind.; a member of the Indiana State Medical Society, Ohio Valley Medical Society and Vanderburg County Medical Society; a member of the staff of the Protestant Deaconess Hospital; for many years professor of chemistry at the State University, Bloomington, Ind.; for several years assistant United States consul at Marseilles, France, died at his home in Evansville, March 18, a few hours after a fall down a long staircase at his house, aged 65.

Charles Louis Fincke, M.D. Long Island College Hospital, Brooklyn, N. Y., 1899; a member of the American Medical Association; one of the most brilliant young practitioners of Brooklyn; valedictorian of his class; clinical assistant and later associate physician in the Brooklyn Hospital; assistant to the chair of pathology in Long Island College Hospital, and secretary of the Brooklyn Pathological Society, died at his home in Brooklyn, March 19, from septicemia, after an illness of two weeks, aged 32.

Samuel H. Freeman, M.D. Albany (N. Y.) Medical College, 1846; one of the original members of the old Albany Hospital staff, and for many years president of the board of curators of Albany Medical College; vice-president of the Albany County Medical Society, and a life member of the Medical Society of the State of New York; one of the oldest practitioners of Albany, died at his home in that city, March 15, aged 85, after a long illness.

John Powell Henry, M.D. College of Physicians and Surgeons in the City of New York, 1881; formerly health commissioner and a member of the board of health of Jersey City, N. J.; a member of the Hudson District Medical Society and the Academy of Medicine, Jersey City, died in a sanitarium near Paterson, N. J., from neurasthenia after a long illness, March 16, aged 48.

A. W. Jones, M.D. Tulane University of Louisiana, Medical Department, New Orleans, 1883; a member of the American Medical Association; formerly vice-president of the Louisiana State Medical Society and of the Morehouse Parish Medical Society; a member of the board of health of Morehouse Parish, died in Jones, La., March 16, after an illness of ten days, aged 50.

Alonzo H. Boyer, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1868; for 35 years a resident of Bridesburg, Philadelphia; assistant surgeon of the Two Hundredth Pennsylvania Volunteer Infantry in the Civil War; a member of the Medical Society of the State of Pennsylvania and of the Philadelphia County Medical Society; for many years a member of the local school board, died at his home, March 18, aged 60.

John L. Cleveland, M.D. Medical College of Ohio, Cincinnati, 1868; a member of the American Medical Association; resident physician in the Cincinnati Hospital in 1868 and 1869; for several years a lecturer and professor in the Medical College of Ohio, and a member of the attending staff of St. Mary's Hospital, died at his home in Cincinnati, March 18, from malignant disease, after an illness of two months, aged 64.

Ebenezer J. Tidd, M.D. University of Michigan, College of Medicine and Surgery, Ann Arbor, 1870, of Clarksville, Pa.; a member of the American Medical Association and one of the most prominent physicians of Mercer County; a veteran of the Civil War, died suddenly while in attendance on a patient at Transfer, Pa., March 17, from valvular heart disease, aged 61.

Rolland C. Hodges, M.D. Detroit Medical College, 1878; a fellow of the American Laryngological, Rhinological and Otological Association; a member of the American Academy of Ophthalmology and Oto-Laryngologic, State Medical Association of Texas and Houston District Medical Society; formerly of Houston, Texas, died at Del Rio, Texas, March 14.

Thomas Farrar Richardson, M.D. Tulane University of Louisiana, Medical Department, New Orleans, 1897; passed assistant surgeon in the United States Public Health and Marine-Hospital Service, of New Orleans; an expert in yellow fever, died at the New Orleans Sanitarium, March 19, from typhoid fever, after an illness of two months, aged 34.

Samuel Kemp Falls, M.D. McGill University, Medical Department, Montreal, 1878; a member of the American Medical Association; from 1888 to 1892 a member of the faculty of Rush Medical College, Chicago, died suddenly in a street car in Chicago, from cerebral hemorrhage, March 22, aged 55.

Samuel J. Cooper, M.D. Memphis (Tenn.) Medical College, 1871; a Confederate veteran; a member of the Colbert County Medical Society, and health officer of Colbert County, committed suicide by gunshot at his home in Tuscumbia, Ala., while suffering from melancholia, March 15, aged 60.

Abner C. Calvin, M.D. Jefferson Medical College, Philadelphia, 1878, of Meadville, Pa., died at the City Hospital in that city, February 24, after an illness of three days, from pulmonary edema due to injuries received in an accident in which he was thrown from his carriage, aged 51.

Taylor M. Snow, M.D. Cooper Medical College, San Francisco, 1876; a pioneer physician of Eastern Oregon; coroner of Baker County, and local physician of the Oregon Railway and Navigation Company for 20 years, died at his home in Baker City, March 6, aged 71.

Everitt Hasbrouck, M.D. New York Homeopathic Medical College and Hospital, New York City, 1865; some-time member of the State Board of Medical Examiners in New York, died at his home in Brooklyn, March 16, from nephritis, after a long illness, aged 66.

Francis Brick, M.D. Cleveland University of Medicine and Surgery, 1861; once vice-president of the Massachusetts Surgical and Gynecological Society, died at his home in Worcester, Mass., March 14, from cerebral hemorrhage, after a short illness, aged 67.

H. B. Smith, M.D. Medical College of Indiana, Indianapolis, 1885, a member of the Indiana State Medical Society and Hamilton County Medical Society, died at his home near Olio, March 15, after an illness of several weeks, aged 59.

Dennis K. Smith, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1895, formerly of Altoona, Pa., died at his home in Colorado Springs, Colo., March 14, from tuberculosis, after a long illness, aged 40.

Brown A. Bigelow, M.D. Jefferson Medical College, Philadelphia, 1874, a member of the Medical Society of the State of Pennsylvania and the Mifflin County Medical Society, died March 16, at his home in Belleville, Pa., aged 44.

James Grant Gilchrist, M.D. Hahnemann Medical College of Pennsylvania, Philadelphia, 1863, profesor of surgery in the College of Homeopathic Medicine of the State University of Iowa, Iowa City, died in that city, March 22.

Arthur H. Davis, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1865, of Philadelphia, a member of the legislature in 1890 and 1891, died in the German Hospital, Philadelphia, March 21, aged 63.

Christian B. Diebold, M.D. Tulane University of Louisiana, Medical Department, New Orleans, 1887, of New Orleans, died at his home, March 15, after an illness of three months, aged 42.

Austin M. Cowan, M.D. Eclectic Medical Institute, Cincinnati, 1852, of Valley Falls, Kan., died suddenly at the home of his son-in-law at Topeka, Kan., March 15, from heart disease, aged 77.

Nathaniel F. Hallman, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1862, died at his home in Slatington, Pa., March 18, after an illness of one week, aged 66.

C. E. Bernhardt, M.D. Kansas Medical College, Topeka, a member of the Tulare County Medical Society, died in Deer Creek, Cal., March 10, from pneumonia, after an illnes of ten days.

Robert E. Lee Tadlock, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1896, died at his home in La Crosse, Ill., March 15, from typhoid fever, after a long illness, aged 38.

G. E. E. Sparhawk, M.D. Hahnemann Medical College, Philadelphia, 1853, died at his home in Burlington, Vt., March 14, from senile debility, after an illness of one year, aged 77.

Robert Evans Bromwell, M.D. University of Maryland, School of Medicine, Baltimore, 1850, died at his home in Port Deposit, Md., March 21, after a protracted illness, aged 79.

Thomas L. Catherwood, M.D. Miami Medical College, Cincinnati, 1870, died at his home in Shelbyville, Ill., March 18, from cerebral hemorhage after an illness of two weeks.

Wylie See Athey, M.D. University of Louisville, Medical Department, 1893, died in San Francisco, December 17, and was buried in Holly Springs, Miss., December 25.

William N. Riley, M.D. Harvard University Medical School, Boston, 1901, died suddenly at his home in Malden, Mass., March 16, from heart disease, aged 26.

Marshall V. Wilson, M.D. (County license, Jackson County, Ind.), 1897, died at his home in Medora, Ind., March 18, after an illness of several weeks, aged 71.

James H. Johnson, M.D. University of Louisville, Medical Department, 1880, died at his home in Round Rock, Texas, March 15, from neurasthenia.

Francis J. Wennerberg, M.D. Harvard University Medical School, Boston, 1893, died from pneumonia, at his home in Boston, March 17, aged 37.

A. A. Chapman, M.D. Long Island College Hospital, Brooklyn, N. Y., 1872, formerly of Lawrenceville, Ga., died recently at his home in Brevard, N. C.

William Eckels, M.D. Jefferson Medical College, Philadelphia, 1837, died at his home in Mechanicsburg, Pa., March 8, from cerebral hemorrhage, aged 73.

W. H. K. King, M.D. Rush Medical College, 1878, died at his home in Carthage, Mo., March 20, from pneumonia, after an illness of one week, aged 61.

Leopold Hirschmann, M.D. Cornell University Medical College, New York City, 1899, died at his home in New York City, March 15, aged 35.

Darius Z. Bowman, M.D. College of Physicians and Surgeons of Baltimore, 1880, died at his home in Reading, Pa., March 18, from erysipelas, aged 51.

Frederick B. McKenney, M.D. University of Buffalo (N. Y.) Medical Department, 1898, died at his home in Varysburg, N. Y., March 17, aged 33.

Herbert Thomson, M.D. Medical School of Maine at Bowdoin College, Brunswick, 1872, died recently at his home in Booneville, Cal.

Miscellany

Quack Advertisements in Great Britain.—The English periodical *Truth* has made a practice of excluding objectionable advertisements from its columns, and the *Medical Press and Circular*, in a recent issue, in referring to a particularly fraudulent case, advises the daily papers to follow the good example. The advertisement in question is that of a charlatan who advertises in the London *Daily News* that he can cure asthma, consumption, chest and stomachic complaints, and claims that he is a specialist of twenty-five years' standing in Brighton, though he offers free advice at an address in London. In commenting on this, the *Medical Press* states that the issue of so costly an advertisement indicates the large sums which are secured thereby. The insertion of such an advertisement in the columns of a daily paper, says the *Medical Press*, makes the editor of the paper *particeps criminis* in the attempt to obtain money under false pretenses, and asks the editor of the paper in question what he has to say in defence of the advertisement. The *Medical Press* also suggests that editors of newspapers exclude from their advertising columns all advertisements which have been blacklisted by *Truth*.

The Journal of the Outdoor Life, which has just entered on its third year and which is the official organ of the National Association for the Study and Prevention of Tuberculosis, is an excellent advocate of fresh air and wholesome life in the prevention and treatment of tuberculosis and other diseases. It is intended for circulation among the laity, and certainly makes interesting reading and will aid greatly in the anti-tuberculosis propaganda. A distinct service which it is rendering is the pointing out of the more common errors into which the health seeker is apt to fall in the following of fads or irrational advice. It advocates competent medical supervision, fresh air, nourishing food and carefully regulated exercise. Among its contributors are the best men in the profession. We are always glad to look over this bright little periodical. It is published at the Adirondack Cottage Sanitarium, Trudeau, N. Y., at $1 a year, and is not a money-making enterprise.

Research on Spinal Anesthesia.—P. Lazarus of Berlin contributes an article on "Lumbalanästhesie" to the *Med. Klinik* for Jan. 28, 1906. He has found spinal analgesia a welcome relief in a number of cases of intense pain from compression of the spinal cord by a cancer or in the crises of tabes. He thinks that it may also be indicated in spastic paralysis, in tetanus, in paramyoclonia, and similar contractures. Also it might be found useful to differentiate and treat hysteric, organic, or simulated painful contracture of the legs. A further indication is as a preliminary to mobilization of stiff joints, and for bloodless stretching of nerves. One of his patients, with severe, rebellious sciatica, was completely cured after the sciatic nerve had been stretched three times in eight days under spinal analgesia. In another case a patient with extremely painful ankylosis of the knee after a gonorrheal affection was treated by mobilization of the joint under spinal analgesia, the patient looking on at the manipulations without the slightest pain, three minutes after the anesthetic had been injected into the spinal cavity. Spinal analgesia is particularly useful for this class of cases as the patient is able to make the first attempts to move the formerly painful limb, and thus learns to use it at once, instead of shrinking from using it for fear of possible pain. Neither advanced age nor cachexia contraindicate spinal analgesia. He follows Bier's technic, described in THE JOURNAL for May 7, 1904, page 1260. He has been studying on 64 rabbits whether it might not be possible to induce spinal analgesia with some substance less toxic than the standard anesthetics. He found that it was possible to arrest temporarily the sensory and motor conductibility of the spinal cord by inducing a focus of transient edematous infiltration of the spinal cord by dural infusion of saline solutions equivalent to an 8 per cent. salt solution, that is having the same osmotic tension. He found further that intradural introduction of large amounts of fluids is dangerous, and that intradural injection of air is fatal. Infusion of distilled water or of cold fluids causes great pain. Infusion of hypotonic or isotonic saline solutions or of a 25 per cent. solution of urea is indifferent. Infusion of a 10 per cent. salt solution is fatal. Infusion of an 8 per cent. solution of common salt or of magnesium sulphate has an anesthetic and paralyzing action. Spinal anesthesia with magnesium sulphate is more effectual than general anesthesia in case of strychnin tetanus, and is liable to prove a life-saving measure.

Fee Table System Injures the General Practitioner.—In former days professional fee tables were supposed to govern every member of the medical profession, but now, says Dr. D. W. Cathell in the *Medical Times*, owing to the work done by specialists and their consequent excellent reputation, as a body, the size of their fees is no longer controlled by these antiquated fee tables. Each specialist establishes for himself some more or less definite financial policy of his own, and puts his own value on his services, taking care, usually, to charge each patient enough to aid materially in giving him and his dependents a comfortable support, with some addition for their needs when he is no longer able to work. To-day, therefore, this old fee-table method of computing fees by the visit governs only the general practitioners, and as far as the best interests of these are concerned, they govern them in the wrong direction. Dr. Cathell states that both specialists and general practitioners have cases among the worthy poor, and that they willingly give those who deserve it, "a poor man's bill," but they often get little or nothing, sometimes not even thanks, for very valuable services, occasionally for saving life itself; and that specialists and every general practitioner alike encounter transient, indefinite, chronic or minor cases in which they charge only a meagre pay-by-the-visit fee, whether by the house visit or for services at the office.

When it comes to important and well-marked cases, in which the patients are able to pay full prices, there exists a very wide and very deep chasm between the custom of the two professional bodies, for the specialist, says Dr. Cathell, then justly ignores all details and charges a bulk sum for his services, while the general practitioner, in calculating the amount of his fees for cases often equally or more important, many times involving life itself, *unjustly* limits himself to counting the number of visits made, with but little or no regard to anything else.

Dr. Cathell calls attention to the fact that the entire population is living under different financial conditions from those of the time when the fee bill was first established, and that

every practitioner should base his charges on professional ability and on the character of the demands made on it instead of on a chalk-mark account of the number of office calls or visits made. He advises every physician in America to make skill and services the basis of all his charges, taking care that the amount named shall be sufficient to cover silently all visits, detentions, distances, etc., because by so doing a physician will enhance his reputation for skill and at the same time get better returns for his work.

The Dust Menace.—For years, says Dr. H. S. Anders, in *Pennsylvania Medical Journal*, I have felt that in fighting the dust evil a most important branch of sanitary work was to be found, especially in the large cities and towns. Public adaptation in this matter is hardly more than a threshold recognition. Street dust, plush-cushion dust in trolley, regular passenger and Pullman cars, damp and dark corner and crack dust in houses, etc., is loaded with pus micrococci, and besides purulent nasopharyngeal, tonsillar, sinus, and bronchial inflammations, may be a threefold factor in pulmonary tuberculosis. First, it may act as a predisposing cause, as a direct physical irritant to the respiratory passages, thus inflaming the mucous membranes and weakening their resistance to bacillary invasion; second, it may carry infection directly by means of dried, fresh tubercular sputum that some ignorant or careless consumptive has recently expectorated; third, it may aggravate tuberculosis by converting an incipient and curable case into one of rapid and virulent destruction of lung tissue because of the addition of pus-producing germs. Pulverized poison added, a mixed infection engendered, and speedy dissolution follows. When will our municipal authorities see clearly, understand fully, and act humanely? How long must the people submit supinely to the present conditions of street dirt, insufficient sprinkling, and infantile methods of cleaning? For the fault is not entirely with rushing automobiles, grinding trolley cars, and unsophisticated Italian street sweepers. Were the dirt removed at night, and the comparatively slight remaining dust kept down during the day by sprinkling as a part of a city's duty to its citizens, these public utilities would incur less justifiable criticism.

The Cold Storage of Undrawn Poultry and Game.—Last year the New York legislature defeated a bill the substance of which was the prohibition of the cold storage of game or poultry in the undrawn state and its subsequent sale to the public. We learn that the authors of last year's defeated bill are about to introduce a similar measure again this year. The defeat of such a measure is only an instance of the strength of the so-called "beef trust." Not content with squeezing the last penny out of the public by their high charge for all the meat that is sold, they actually menace the health of communities by selling undrawn game and poultry which has been left in cold storage for an indefinite period. Undoubtedly a large percentage of the cases of toxin infection which have become so prevalent of late years are directly ascribable to cold-storage poultry.—*Medical Age.*

Source of Girault's Paper on the Bedbug.—In our editorial March 17, 1906, on the bedbug and disease possibilities, we spoke of a pamphlet by A. A. Girault as a publication of the United States Department of Agriculture. The reference we gave was wrong. The paper in question appeared in *Psyche*, Vol. XII, Nos. 3 and 4, June-August, 1905, pp. 61-74. This periodical is published by the Cambridge Entomological Club, which may be addressed in care of the Boston Society of Natural History, Boston.

Aselli.—The cluster of lymphatic glands lying in the mesentery is sometimes called the pancreas of Aselli, or lesser pancreas. These glands were described by Gaspar Aselli, an Italian anatomist, who was born in 1581 and died in 1626. His home was at Cremona. In the year 1622, while professor of anatomy at Pavia, he discovered the lacteals, and wrote a book on the subject.

Dr. Young of Glasgow.—In THE JOURNAL, Jan. 6, 1906, page 45, we referred editorially to the author of the article, "Gunshot Wounds of Peripheral Nerves," as Archibald Young of London. Dr. Young calls attention to the fact that his address is Glasgow, not London.

Book Notices

THE ANIMAL PARASITES OF MAN. A Handbook for Students and Medical Men. By M. Braun. Third enlarged and improved edition, with 294 illustrations. Translated from the German by P. Falcke, brought up to date by L. W. Sambon, M.D., and F. V. Theobald, M.A. Cloth. Pp. 453. Price, $5.00 net. New York: William Wood & Co.

This is the first English edition of this work, which contains 453 pages. The paper strikes one as rather inferior in quality. The book contains in convenient form an enormous amount of facts and authoritative information concerning the non-bacterial human parasites now of such growing importance not only to physicians living in warm climates, but also to those in temperate and even cold regions. Parasite carriers (mosquitoes, tsetse flies, ticks, etc.) are considered fully. The book is sure of appreciation. In the next edition the author no doubt will revise the section on trypanosoma so as to bring it in better harmony with the results of recent investigations.

PHARMACOLOGY AND THERAPEUTICS. By R. W. Wilcox, M.A., M.D., LL.D. Sixth Edition. Based on the Fifth Edition of White and Wilcox's "Materia Medica and Therapeutics." Cloth. Pp. 1010. Price, $3.50. Philadelphia: P. Blakiston's Son & Co., 1905.

This is a companion book to White's Materia Medica and Therapeutics, but it has less to commend it. On page 10 we find the following: "It is also equally true that the details of the chemical behavior of such substance can be ascertained only by performing the necessary reactions, and the point has therefore been well taken that as there is no prospect at the present time of explaining the latter from its constitution, there is still less hope that much advance will be made in the near future in formulating the laws governing the details of its pharmacological effects." To this we can not agree. Just as the chemical behavior of many substances can be stated with reasonable accuracy from a knowledge of their constitution and relationship, so much advance is being made in the study of the relation between chemical constitution and pharmacologic effect. Another criticism that may be made is that in a book intended as a text-book for use in American schools and colleges there are too many preparations of the British Pharmacopeia—to say nothing of the amount of space devoted to certain proprietary remedies, of which little is known beyond the statements of the manufacturers. On page 33, in speaking of ether, the author has used the practically obsolete term "sulphuric ether." He may be severely criticised for using obsolete or unusual terms, sal alembroth, for example, which tend to confuse the reader. It is to be regretted that so few books designed to be used as text-books for students of medicine possess so little educational value.

SURGICAL TREATMENT OF CHRONIC SUPPURATION OF THE MIDDLE EAR AND MASTOID. By S. Oppenheimer, M.D. Illustrated by 46 half-tone Plates, containing 64 figures and 27 key plates, etc. Cloth. Pp. 425. Price, $6.00. Philadelphia: P. Blakiston's Son & Co., 1906.

This is one of the most important books that has appeared on this subject in the English language. It must, of course, be compared with McEwen's classical work and with Whiting's recent publication, but it does not suffer in the comparison, as it is more generally and practically useful than either. McEwen's book is more authoritative and learned, and in reality forms a ground work or foundation for scientific mastoid surgery, and will remain a classic to which we must always turn for counsel, but it does not touch on middle-ear surgery nor on that subject which is of enormous interest to modern otologists, the radical mastoid operation. Therefore, as a practical every-day working book Oppenheimer's production will be more frequently useful to the busy surgeon.

Whiting's artistic book on "The Mastoid Operation," while excellent as far as it goes, makes no mention of the radical operation and proved disappointing to those readers who expected a complete dissertation on the subject from one of Whiting's erudition, skill and experience. We, therefore, reaffirm that Oppenheimer's book, containing, as it does, the necessary anatomy of the temporal bone, the treatment and operative interference of the tympanum, a comprehensive chapter on "Anatomic and Surgical Landmarks," directions for the simple mastoid operations and its complications, minute instructions as to the radical mastoid operation, including most comprehensive descriptions concerning the vari-

ous plastic procedures, together with a wealth of beautiful and plain pictures that clarify the entire subject, will at once assume a position of first importance in the working library of the aural surgeon. The mechanical part of the volume is excellent, and the illustrations can not be too highly commended and they will be appreciated by those who are not well up on their anatomy. An interesting feature of the book is its plain and comprehensive chapters on suppurating middle-ear diseases and their treatment, surgical and otherwise; indeed, the only criticism that can be made on this section of the work is the feeling that the author has devoted a preponderating amount of space to these subjects; still, in these days of tendencies toward radical surgery of all kinds, it is gratifying to note the words of warning and a leaning toward conservatism. The author himself, however, is evidently "torn with conflicting emotions," for quite frequently throughout the book, while dwelling on middle-ear treatment for suppuration, and going into minute details concerning ossiculectomy and curettage and emphasizing its importance at great length, he lapses into the prevailing opinion that, after all, intractable middle-ear suppurations are best treated by the radical operation. In this view he will be upheld by the best and most progressive surgeons, for, while conscientious surgeons never desire to rush unnecessarily into operative procedures, yet, considering the mortality of unchecked tympanic suppurations and the inaccessible location in the antrum and cells of most of these diseases, the radical operation is the only logical treatment in a large proportion of such cases. Nevertheless, conscientious and proper middle-ear treatment, followed perhaps by ossiculectomy, etc., should, of course, as recommended by Oppenheimer, be given a faithful and painstaking trial before so serious an operation as a radical mastoidectomy is advised. Success, however, can only be expected in those cases in which the seat of disease is limited to the tympanic cavity, and not to those instances in which necrosis, granulation, etc., have extended backward to the antrum or to the cells, and, as Oppenheimer says on page 9, it should never be forgotten "that the purulent discharge should be looked on as a symptom of the pathologic conditions present and not as the actual disease itself." The author also calls attention to the fact on page 9 that "the order of the discharge can easily be relied on as an indication of necrosed bone unless it is unusually persistent, following careful local cleansing of the tympanic cavity." It may, as he says, be due to "the presence of a retained irritating secretion or of a mass of desquamated epithelium undergoing fatty transformation." On page 185 the very interesting statement is given by Birmingham that the antrum was absent in one skull among one hundred which he examined. This observation can not fail to be of interest to all who frequently perform some form of mastoid operation, as many authors affirm positively that the antrum, though sometimes misplaced, is invariably present. Another interesting statement by Burkner is given on page 186, to the effect that he found congenital dehiscences of the tegmen antri present 167 times in 765 cases. These studies also disclosed the fact that, irrespective of age, the antrum can always be found (when present) inferior to the linea temporalis and superior and anterior to the squamo-mastoid suture.

On page 189 attention is directed to the well-known close contiguity existing between the osseous Eustachian tube and the internal carotid artery, which are separated by a thin shell of bone, which fact is instructive when the surgeon undertakes to curette the tube mouth in the radical operation with either the sharp spoon or bur, and argues in favor of pressing these instruments forward instead of backward toward the artery. On page 239 Oppenheimer states that the radical mastoid operation is not necessary in all cases of chronic purulent otorrhea, as necrotic and other changes in the antrum and cells are not always of sufficient extent to warrant this procedure. In this statement, of course, he will not be contradicted, the only problem to be solved being the existence and extent of the pathological changes of serious character within these chambers. This can easily be done in those cases accompanied by mastoid symptoms, such as pain, tenderness, swelling, temperature, etc., but what of those cases in which the mastoid is quiescent, and in which the only indication is a persistent intractable discharge, which does not yield to suitable middle-ear treatment nor even to an ossiculectomy, and in which the existence of intra-mastoid disease is reasonably certain? Some light may perhaps be thrown on this perplexing question by referring to the opinions of some otologic leaders as quoted by Oppenheimer. Milligan says: "When the suppuration has persisted for twelve months, with careful local treatment for three months without avail, the mastoid should be opened." Luc advises a mastoid operation "for the cure of aural suppuration after operation by way of the meatus has failed." Schwartze operates "as a prophylactic operation to facilitate drainage in incurable fetid suppuration even with no evidence of retention." McEwan advises a radical operation to prevent the danger of future complications in cases where "pyogenic lesions exist in the middle ear or its adnexa which are either not accessible or can not be eradicated through the canal." Küster advises the radical operation in intractable otorrhea "on the general surgical principle that when a collection of pus is confined within a bony cavity the focus of infection should be freely opened in order that the morbid changes present can be seen and the pathologic tissue thoroughly eradicated." And so these opinions might be repeated and indorsed by otologic leaders throughout the world, the only question being as to when and under what circumstances an aural discharge shall be regarded as intractable, in order to announce the advent of operative mastoid advice. It is hoped that some reasonably accurate data will some day be thrown on this as yet unsettled problem, and that meanwhile the mortality reports of septic intra-cranial lesions may not be allowed to become over large.

On page 254 the rather strange advice is given to commence opening the mastoid cortex over the antrum with a gouge or drill, and then to complete the work with the chisel. On the same page the statement is made that so well-known a surgeon as Blake uses a long broad-bladed drill with which to commence the opening in the cortex. One would suppose that in this day of advanced mastoid surgery such dangerous and inadequate weapons as drills would have been relegated to the receptacle for discarded instruments. No instrument should be used for this operation whose cutting edge cannot be kept under constant observation, as in a bony shell, where the anatomic landmarks are so shifty in their location as is the case in the mastoid bone, there is no telling what the deadly and unseen end of a drill may encounter. This surgical warning is so well understood as to make it seem quite unnecessary and yet the suggestions on page 254 appear to render its utterance quite essential. Oppenheimer himself, on the same page, remarks that "the drill and the trephine are not so safe as the chisel;" if this is true (and it undoubtedly is) then the reviewer would beg to inquire why should we go backward ten or fifteen years and use them? On page 257 the advice is given to use a lead-filled or compressed rawhide mallet for driving the chisels. Of course each surgeon must select his own instruments, but the reviewer would beg to suggest that a lignum vitæ mallet of ample size encased in a partial overcoat of steel is superior to either a lead or a rawhide mallet. A lead mallet is too heavy if large, and too small for convenience if of the proper weight. A rawhide mallet does not strike a firm enough blow, and soon becomes soft and pulpy if boiled a few times. A large steel covered, hardwood mallet strikes a good, firm blow, and is practically indestructible.

On page 264 the author advises (in the simple mastoid operation) that the sure location of the antrum and tympanum be ascertained by passing one probe into the tympanum by way of the meatus, and another probe into the tympanum by way of the mastoid and antral cavities, and making them touch. The reviewer is of the impression that this is a questionable procedure in acute mastoid operation, as he believes it better to leave the tympanic cavity untouched in such operations for fear of injuring the ossicles, which should usually be left alone (except in the radical operation) as they are, of course, important factors in good audition, which we always expect to preserve after the simple operation.

On page 271 the author refers to the valuable qualities of the dental or electric bur in mastoid work. The reviewer believes that there can be no question of the truth of this state-

ment, the only difficulty being in securing a good, strong reliable, ever-ready machine that can be sold at a reasonable price. Jansen of Berlin uses such a machine and certainly no one can witness his operations without being impressed with their great technical beauty. As Oppenheimer says, the round bur is an extremely safe instrument in case the facial nerve, dura or sinus is encountered as its spheroidal form "pushes the tissues ahead without cutting or wounding them."

On page 273 Oppenheimer recommends the complete closure of the post-auricular wound by sutures in the acute mastoid operation, provided the operator is sure that all diseased tissue has been removed. In the first place how can one be sure that all diseased tissue has been removed, and in the second place the reviewer feels quite confident that but few experienced operators believe it wise to suture entirely an acute mastoid wound, as it is tolerably certain that such openings should be gradually healed by drainage and granulation.

Commencing on page 287 and continuing for several pages thereafter will be found a most comprehensive description of the pure mastoid operation as devised by Stacke. While this operation is now but little used, having been justly superseded by the more useful procedure called after the joint name of both Stacke and Schwartze, or usually denominated by the shorter cognomen of the "radical operation," yet a clear description of Stacke's operation as given by Oppenheimer, is not only interesting and rather unusual, but also useful, as it may, in rare cases of extreme forward displacement of the sigmoid sinus, become necessary to transpose what was intended to be a Stacke-Schwartze operation into a Stacke operation, and for this emergency the surgeon should always be prepared. The reviewer is convinced that the consensus of opinion at the present time is strongly against the performance of the pure Stacke operation, as a primary procedure for the radical cure of purulent otorrhea. The operation should be commenced as the well-known Stacke-Schwartze procedure and finished as such unless an extreme forward displacement of the sinus is found rendering such an operation impossible. The Stacke-Schwartze operation should then be abandoned and the antrum entered by way of the meatus and tympanum as suggested by Stacke.

On page 290 the author advises that after the posterior and superior walls of the cartilaginous meatus have been separated from their osseous attachments by a narrow periosteotome, that the inner portion of the cartilaginous meatal tube be cut across close to the tympanum by a small knife. It has been the reviewer's experience and observation that this is never necessary as the cartilaginous meatus can be thoroughly and completely loosened by a narrow periosteotome, and then easily released from its osseous bed by a little firm traction without the use of the knife at all.

On page 297 reference is made to a method of loosening the cartilaginous meatus, which should certainly be condemned. The author says that an incision may be made "in the upper posterior wall of the meatus, commencing at the annulus tympanicus, and from within outward; a like incision is then made along the lower part of the meatal wall, parallel and opposite to the first incision, and the flap of tissue thus included between these two incisions is separated from the osseous wall and removed with scissors, so that the posterior and superior walls of the canal are thus exposed." The author himself admits in the next line that "this method may, however, seriously interfere with any plastic operation that may be desired." This objection is certainly valid and should be a sufficient reason for not even mentioning the method as the plastic procedure following the radical operation is certainly of the utmost importance for its success, and the amputated meatal tissue thus wasted by the plan referred to by the author is the very essential tissue that will subsequently be imperatively demanded.

On page 309 will be found a timely note of warning on too great freedom in the production of unnecessary traumatism of the auricular cartilage for fear of producing perichondritis, and with it the dreadful deformity which follows. To one who has never produced this deformity this warning may seem superfluous, but to one who has met it in his own practice precautions of this character will appeal with peculiar directness.

Commencing on page 310 will be found plain and minute descriptions of the primary skin grafting methods at the time of the mastoid operation, as practiced by Dench and others; and commencing on page 333 will be found equally comprehensive directness as to the methods of the secondary grafting procedures of Ballance and others performed in from seven days to three weeks after the original operation by opening the wound, placing the grafts and reclosing the incision. As grafts applied either at the mastoid operation or later, are unquestionably necessary in some cases, these lucid descriptions of Oppenheimer are both timely and useful and should be carefully considered.

On page 330 is mentioned the method of using the Gelle saw in removing the upper, posterior wall of the osseous meatus, for the purpose of avoiding the facial nerve and horizontal semicircular canal. This fine, flexible saw is introduced by a small wire which passes through the antrum into the tympanum and is drawn out through the meatus. The two ends of the saw are then held by the two hands of the surgeon, and by a to and fro movement the bridge is cut away. This method has never been witnessed by the reviewer, but it appeals to him as being a procedure that is at least worthy of a trial. The reviewer can not refrain from rather enthusiastically praising the printed descriptions and beautiful pictures of the various plastic and flap operations so well described and depicted in the latter portion of this volume. They certainly are most excellent and unusual, and should be carefully studied by all who do mastoid surgery. The same praise may be given unreservedly to the last chapter of the book on the "After Treatment of Mastoid Operations," which is a most important subject and one which is frequently neglected by authors, and yet one that is absolutely essential to the surgeon who is looking for the best ultimate results.

On page 394 will be found some very interesting and encouraging statistical figures on the result of the radical operation on hearing, about which much uncertainty prevails in the minds not only of general practitioners but of aural surgeons as well. It seems that Grossman has compiled the records of the after history of 216 cases of radical mastoid operations, and has found that with an intact labyrinth about 48 per cent. of the patients showed an improvement of hearing, in about 20 per cent. there was no change, and in about 31 per cent the hearing power was diminished. This shows, therefore, that in about 68 per cent. of the cases the function of audition is either improved or unimpaired. This is certainly most encouraging to the operator and to the patient, especially when it is considered that the operation is indicated in cases of intractable aural suppuration in order to eliminate a vital menace and that the hearing power must take second rank as a prognosticating consideration.

The reviewer again begs heartily to indorse Dr. Oppenheimer's timely and excellent work and to recommend it not only to all otologic surgeons but to general practitioners as well, believing that the book can be advantageously and profitably read and studied by both.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

ATTENDING CHILDBIRTH AFTER ATTENDING ERYSIPELAS

ORLANDO, OKLA., March 17, 1906.

To the Editor:—Is it safe to go at once into a case of labor, after discharging a case of erysipelas, provided the accoucheur thoroughly sterilizes himself and his clothing, or should one wait a few days? I practice in the country, and have just been in two cases of erysipelas for the past two weeks, discharging the last one to-day. I am expecting several confinements that may come off any time after this writing, and I wish to know if I take a bichlorid bath, including my hair, and change my underclothing and expose my outer clothing to sulphur fumes for six or eight hours in a closed room will I be safe in going into these labor cases immediately thereafter, or should I wait a few days, and if so, how long?

WM. H. WALKER, M.D.

ANSWER.—When a physician has charge of a case of erysipelas, puerperal fever, pyemic abscess or other infection the degree of contamination of his body and clothes depends much on his method of

handling the case of infection. He may contaminate his clothing by bringing it in direct contact with the diseased body or its secretions or indirectly by contaminating his hands and then handling his clothes. If he carefully avoids contaminating his clothes by protecting them with a large apron and by disinfecting his hands immediately after contamination before touching any part of his clothing he will avoid a good share of the danger from infectious cases. Likewise the contamination of the body of the physician may be avoided to a considerable extent. He should not remain in close proximity to the patient longer than is necessary. He should especially avoid getting his hair or beard contaminated. He should protect his hands while dressing abscesses, etc., with rubber gloves. In case he does contaminate his hands he should disinfect them at once, and not leave the contamination material long in contact with the skin. If these precautions have not been taken he may assume a thorough contamination of himself and his clothes. Will such a thorough cleaning as our correspondent specifies be sufficient to remove all pathologic germs? There is no question that the clothes can be rendered safe. The great danger is in the hands, which have been especially contaminated. Probably no combination of mechanical and chemical disinfection can be devised that in the course of 10 to 20 minutes can certainly effectually sterilize the badly contaminated fingers. Here three or more efforts at disinfection separated by an interval of several hours is desirable just as "fractional sterilization" in the laboratory is necessary. In cases of great emergency a thorough change of clothes and a hot bath, including a head bath and the most careful possible cleaning of the hands, with the use of rubber gloves, are justifiable. The danger occurs in the failure to carry out these rules with an "aseptic conscience."

FORMULA FOR NOBLE'S ENEMA.

S. C. asks for "Noble's formula for enema." This was published by Dr. C. P. Noble of Philadelphia, several years ago, and was called a purgative enema. Originally, it consisted of magnesium sulphate, 2 ounces, glycerin 2 ounces, turpentine ½ ounce, and water enough to make 4 ounces. This enema was recommended for use when there was difficulty in securing a movement of the bowels after abdominal sections. Now, as a rule, more water is used; at present, enough to make half a pint, or even a pint, and it is given through a high rectal tube. Dr. Noble states that this formula and enemas of a solution of alum are the two which have given him the most positive results in cases of paretic bowel.

THE DOCTOR'S THREE FACES.

NORTH YAKIMA, Wash., March 17, 1906.

To the Editor:—Please send me a copy of the Latin verse referring to the doctor as a god, an angel and a devil; also the translation. I think that this appeared in THE JOURNAL about two years ago, but I have no copy of THE JOURNAL of that time.

CHARLES E. KEELER, M.D.

ANSWER.—Our correspondent evidently refers to an answer to a similar query published in this department, April 16, 1904, p. 1033. The epigram in question is credited to Ericus Cordus, a physician of the early part of the sixteenth century. It is as follows.

Tres medicus facies habet; unam quando rogatur
Angelicum mox est, cum juvet, ipse Deus.
Post ubi curato, poscit sua præmia, morbo
Horridus apparet; terribilisque Satan.

This may be very freely translated to read:

Three faces has the doctor; when first sought
An angel's—and a God's, the cure half wrought;
But when the cure complete he seeks his fee
The devil looks less terrible than he.

QUININ AS A SPECIFIC IN PNEUMONIA.

ORANGE, N. J., March 18, 1906.

To the Editor:—I was interested in reading your editorial in THE JOURNAL, March 17, concerning quinin as a specific in pneumonia. I wonder if it is generally known among American physicians that in the last few years digitalis has been largely used in Europe for the same purpose. Traube and Reboul studied the power of this drug to render the lung tissue anemic, when given in large doses, but a practical application was lacking till Petresco and Maragliano in Italy began to use digitalis on an extensive scale with excellent results. Experiments showed a decidedly deleterious effect on pneumonia toxins; and in cultures *in vitro* the development of Fränkel's diplococcus was totally prevented. The average dose of digitalis is from 8 to 12 grams in three or four days, the treatment being then suspended owing to the cumulative properties of the drug. An improvement in the patient's condition generally begins on the second day, the pulse becoming less rapid. In rare cases, intolerance is manifested by irregularities of the pulse, nausea, vomiting and persistent diarrhea. Prescriptions generally include infusion of digitalis, aromatics, and a syrup. I should be very glad to hear whether or not any of your readers have had any experience in this line. C. D. MARTINETTI, M.D.

ANSWER.—In the editorial referred to, we made specific mention of Petresco and his use of digitalis. Numerous articles on the treatment of pneumonia with digitalis can be found if one takes the trouble to go back over the literature of the last fifteen years. for Petresco wrote as far back as 1891 (*Therapeutische Monatshefte*, February, 1891). The treatment has been tried by many clinicians in many lands, and the results have not proved Petresco's claim for large doses of digitalis as a routine and nearly specific plan of medication in pneumonia. By consulting the *Index Medicus* or our own Index of Current Medical Literature one may learn that the digitalis treatment is old and that the remarkable claims made for it can not be substantiated.

OPPOSITION TO THE SECURING OF PURE FOOD LAWS.

CAVE-IN-ROCK, ILL., March 23, 1906.

To the Editor:—I hand you herewith a lost sheep which has wandered back close to home and jumped into my premises this morning. As you will see by the envelope, it traveled incognito, and it makes no difference where it goes just so it goes somewhere, so I refer it to you for identification. I call it a "What Is It."

ANSWER.—The "What Is It?" enclosed by Dr. W. J. J. Paris is a reprint of an article entitled "The Wholesale Poisoning Scare," by R. G. Eccles, M.D., of New York City. It is a reply to an excellent paper which appeared in the *Medical Fortnightly* last October, written by Dr. C. F. Wahrer, Ft. Madison, Iowa. Evidently, something has broken loose in regard to this and several other matters that relate to preservatives, etc., for Eccles' paper appeared last November and is now reprinted and is evidently very widely circulated, for we are receiving copies of it from all parts of the country. The question arises: "Who pays the freight?"

State Boards of Registration

COMING EXAMINATIONS.

UTAH State Board of Medical Examiners, Salt Lake City, April 2. Secretary, R. W. Fisher, Salt Lake City.

ARIZONA Board of Medical Examiners, Phoenix, April 2-3. Secretary, Ancil Martin, Phoenix.

CALIFORNIA Board of Medical Examiners, San Francisco, April 2-3. Secretary, Charles L. Tisdale, San Francisco.

IDAHO State Board of Medical Examiners, Pocatello, April 3. Secretary, J. D. Conant, Jr., Genesee.

MONTANA Board of Medical Examiners, Senate Chamber, the Capitol, Helena, April 3. Secretary, William C. Riddell, Helena.

NORTH DAKOTA State Medical Examining Board, Grand Forks, April 3. Secretary, H. M. Wheeler, Grand Forks.

OHIO Board of Registration and Examination, State House, Columbus, April 3. Secretary, D. N. Kinsmann, Columbus.

MINNESOTA State Board of Medical Examiners, State Capitol Building, St. Paul, April 3-5. Secretary, O. E. Linjer, Minneapolis.

RHODE ISLAND State Board of Health, State House, Providence, April 5. Secretary, Gardner T. Swarts, Providence.

GEORGIA Medical Examining Board (Regular), the Capitol, Atlanta, first week in April. Secretary, E. R. Anthony, Griffin.

ARKANSAS State Board Medical Society, Little Rock, April 10. Secretary, J. P. Runyan, Little Rock.

MISSOURI State Board of Health, Barnes Medical College, St. Louis, April 10-12. Secretary, J. A. B. Adcock, Warrensburg.

WEST VIRGINIA State Board of Health, Parkersburg, April 10-12. Secretary, H. A. Barbee, Point Pleasant.

DISTRICT OF COLUMBIA Board of Medical Supervisors, Washington, D. C. April 12. Secretary, William C. Woodward, Washington, D. C.

MISSOURI State Board of Health, University Medical College, Kansas City, April 16-18. Secretary, J. A. B. Adcock, Warrensburg.

ILLINOIS STATE BOARD OF HEALTH, Northwestern University Building, Chicago, April 18-20. Secretary, J. A. Egan, Springfield.

Oklahoma December Report.—Dr. J. W. Baker, secretary of the Territorial Board of Medical Examiners, reports the written examinations held at Guthrie, Dec. 27, 1905. The number of subjects examined in was 10; total number of questions asked, 90; percentage required to pass, 66.6 in each branch. The total number of candidates examined was 17, of whom 8 passed and 9 failed. The following colleges were represented:

College.	Year Grad.	Per Cent.
PASSED.		
Eclectic Med. Univ., Kansas City	(1905)	68
University of Missouri	(1905)	76
Rush Med. Coll	(1904)	76.5
University of Iowa	(1903)	72.6
Denver & Gross Coll. of Med	(1903)	74.8
University of Nashville	(1899)	78.8
Medico-Chirurgical Coll., Kansas City	(1903)	74.3
Columbian University	(1902)	92.7
FAILED.		
Keokuk Coll. of P. & S.	(1904)	60.8
Rush Med. Coll.	(1889)	70.1
Vanderbilt University	(1905)	67.6
Keokuk Med. Coll.*	(1898)	
College of P. & S., St. Joseph, Mo.	(1886)	59.8
Physio-Med. Coll., Illinois	(1897)	50
College of P. & S., St. Joseph	(1882)	65
University Med. Coll., Kansas City	(1905)	64
University of Iowa	(1881)	70

* Dropped out before finishing last two subjects.

Rhode Island January Report.—In the report of the examination held at Providence in January, 1906, published in THE JOURNAL, Feb. 10, 1906, page 455, among the failures was one candidate stated to be a graduate of the Medico-Chirurgical College, Pennsylvania. Later reports show that this man was an undergraduate.

Washington January Report.—Dr. C. W. Sharples, secretary of the State Medical Examining Board of Washington, reports the examination held at Spokane, Jan. 2-4, 1906. The number of subjects examined in was 15; total number of questions asked, 100; percentage required to pass, 75; graduates over 10 years, 70. The total number of candidates examined was 73, of whom 53 passed and 20 failed. The following colleges were represented:

College.	Year Grad.	Per Cent.
PASSED.		
University Coll. of Med., Virginia	(1905)	84
Alexander University, Helsengfors, Finland	(1897)	82
University of Virginia	(1900)	84
Barnes Med. Coll.	(1905)	79, 81, 82
University of Michigan	(1904)	78, 83, 85
Howard University	(1887) 72; (1902) 85; (1905)	82
Rush Med. Coll.	(1896) 85; (1900) 82; (1901) 85; (1905)	81
College of P. and S., San Francisco	(1905)	84
Johns Hopkins University	(1905)	76
College of P. and S., New York	(1903)	85
McGill University	(1897) 75, 80; (1904)	80
University of Pennsylvania	(1897) 75; (1905)	80
University School of Med., Boston	(1892)	*
Illinois Med. Coll.	(1902)	75
Northwestern University	(1903) 90; (1904) 86; (1905)	76
University of Toronto	(1904) 75, 87; (1905)	76
Chicago Homeo. Med. Coll.	(1903)	77
Jefferson Med. Coll.	(1905)	85
Marion-Sims Beaumont Med. Coll.	(1894)	81
Georgetown University	(1900)	75
College of P. and S., Keokuk	(1881) 70; (1905)	75
Missouri Med. Coll.	(1898)	80
University of Minnesota	(1897) 81; (1900)	81
Milwaukee Med. Coll.	(1905)	85
Washington University	(1904)	82
University of Southern California	(1900)	80
Western Pennsylvania Med. Coll.	(1888)	75
Cornell University	(1905)	91
American Med. Miss. Coll.	(1899)	79
Kentucky School of Med.	(1897)	75
College of P. and S., Chicago	(1904)	80, 90
Hospital College of Med., Louisville	(1904)	75
Univ. of Strassburg Germany	(1896)	79
Medico-Chirurgical Coll., Kansas City	(1905)	81
FAILED.		
Bennett Med. Coll.	(1874)	59
Dallas Medical College	(1903)	41
Maryland Med. Coll.	(1904)	70**
Omaha Med. Coll.	(1882)	62**
University of Buffalo	(1901)	73
Medical School of Maine	(1887)	65
Rush Med. Coll.	(1871)	53
College of P. and S., Indianapolis	(1897)	68
Detroit Coll. of Med.	(1900)	67
Boston Univ. School of Med.	(1898)	72
University of Michigan	(1883)	61 ‡
Kansas Med. Coll.	(1898)	72††
University of Illinois	(1901)	72
Trinity Med. Coll., Toronto	(1883)	63
Marion-Sims Beaumont Med. Coll.	(1898)	72
Gross Med. Coll.	(1889)	66
University of Louisville	(1873)	51 †
Meharry Med. College	(1905)	65
College of P. and S., Cleveland	(1904)	72 †
University of Iowa	(1885)	66

*Part of examination papers lost and exact grade not assignable.
†Second failure.
‡Third failure.
**Fourth failure.
††Fifth failure.

The following questions were asked:

MEDICAL JURISPRUDENCE AND PREVENTIVE MEDICINE.

1. Name one or more conditions in which a doctor could be held to be liable on account of errors in (*a*) diagnosis, (*b*) surgery, (*c*) obstetrics. 2. Give the signs of corrosive poisons before and after death. 3. In case of murder, what evidence can be obtained from blood stains? Give the method of examination and findings. 4. Suppose a new-born baby were found dead and infanticide were suspected, name the essential points to demonstrate that the child had or had not been murdered. 5. What is understood in the law by the term "abortion"? 6. What means should be used to prevent poisoning among workers in lead? 7. Name the manner of dissemination and means of prevention of tuberculosis. 8. Name the cause and manner of dissemination of Asiatic cholera and method of prevention. 9. Name the essential processes in the prophylaxis of infectious disease, specifying two chemical and two physical means. 10. What means should be taken to secure a pure milk supply? Name the amount of solid material and the proportion of bacteria per c.c that indicates danger and impurities. Name the dangers of an impure supply.

GYNECOLOGY AND OBSTETRICS.

1. Give the sequelæ of gonorrhea in the female. 2. Give in a concise statement your method of examining the female pelvic organs. 3. Enumerate the different uterine displacements. Give the cause of each and a method of correcting one of them. 4. Define curettage. Show when it is indicated and give method of performing same. 5. What is atresia vaginæ? Give causes and treatment. 6. Draw a diagram of the female pelvis at the superior straight, showing the diameters and giving the measurements. 7. Give your method of applying forceps. State when indicated. 8. How do you treat a retained placenta? Give the dangers arising from the same. 9. What changes in the symptoms of pregancy occur on the death of the fetus? 10. Describe the influence of pregnancy on cardiac lesions.

ANATOMY AND PHYSIOLOGY.

1. Name the muscles which move the shoulder joint, giving their origin, insertion and nerve supply. 2. Describe the peritoneum and its relation to the abdominal organs. 3. What vessels unite to form the portal vein? Into what does it divide? How does blood from portal vein reach the heart? 4. Give attachments of the fascia lata. 5. Give the origin, distribution and function of the pneumogastric nerve. How does stimulation of the same affect the heart? 6. Give the origin, course and distribution of the sciatic nerve. How does the external branch reach the front of the leg? 7. Name the bones of the ankle and give their articulations. 8. Give the origin and distribution of the brachial plexus. 9. Describe the elimination of urine. 10. Give the physiology of the perception of light. 11. Describe in detail the difference between inspired and expired air. 12. Describe in detail the condition of the blood before and after passing through the lungs, and give the physiology of the alteration. 13. Give the physiology of reflex action. 14. Describe the digestion of fat. 15. Describe the development of a red blood-cell.

CHEMISTRY AND TOXICOLOGY.

1. Define acids, bases, salts and metals. 2. State the composition of atmospheric air. What do you understand by humidity and rarity? 3. Compare ozone with oxygen as to occurrence and properties. 4. What is marsh gas? Where is it found in nature? Give its chemical formula. 5. Give the chemical formula for (*a*) blue vitrol, (*b*) copperas, (*c*) Epsom salts, (*d*) Glauber salts, (*e*) plaster of Paris. 6. What are symptoms of strychnin poisoning? 7. Give one physiologic antidote for chloral hydrate poisoning. 8. What is the most common symptom in poisoning by methyl alcohol? 9. Give treatment for morphin poisoning. 10. Give symptoms of and treatment of cocain poisoning.

HISTOLOGY, PATHOLOGY AND BACTERIOLOGY.

1. (*a*) What are the four cardinal indications of inflammation? (*b*) Give process of and termination of simple inflammation. 2. Describe through its various stages the most characteristic lesion of typhoid fever. 3. What are the structural changes of the spinal cord in locomotor ataxia? 4. Differentiate: Fatty infiltration and fatty degeneration. 5. Name and describe two varieties of glands found in the stomach. 6. Give the microscopic structure of the parotid gland. 7. Define a Malpighian corpuscle. Give a description of the same. 8. Name and briefly describe as to growth and microscopic appearance, five varieties of bacteria known to be pathogenic to man, and name disease or diseases with which each kind is associated. 9. Describe step by step a satisfactory method of staining suspected sputum for tubercle bacilli. 10. What is Widal reaction? Give the method of applying and its diagnostic import.

PRACTICE OF MEDICINE AND DISEASES OF CHILDREN.

1. Give symptoms, diagnosis and prognosis of bubonic plague. 2. Give etiology, pathology, symptoms, diagnosis and treatment of common cold acute coryza. 3. Give diagnosis of pneumothorax, hydropneumothorax and pyopneumothorax. 4. Give treatment of acute cholangitis (non-surgical). 5. Give symptoms, prognosis and treatment of exophthalmic goiter. 6. Give etiology, symptoms and treatment of scurvy. 7. Give etiology, symptoms and treatment of acute tonsillitis. 8. Give symptoms, diagnosis and treatment of pernicious anemia. 9. Give diagnosis and treatment of hereditary syphilis. 10. Give capacity (amount of food) of a child's stomach at birth, two weeks, three months, six months and eighteen months. 11. Give symptoms, diagnosis, prognosis and treatment of spasmodic croup. 12. Give symptoms and treatment of intestinal colic in infants. 13. Give etiology, diagnosis and treatment of urticaria. 14. Give diagnosis and treatment of acute eczema of face in infants. 15. Give etiology and treatment of acute vulvitis in children.

MATERIA MEDICA AND THERAPEUTICS.

1. How do strophanthus and digitalis differ in physiologic action? Name the dose of the tincture of each. 2. What are the physiologic actions of silver? Name its incompatibles and its antidote. 3. Give the official preparations of rhubarb and their dosage. What is the active principal of scammony. 4. (*a*) What are the preparations of ipecac and their dosage? (*b*) Of what is paragoric composed? Give the dose for a child two years old and for adults. 5. Contrast the action of ergot and digitalis. 6. What is the source of belladonna, and what are its preparations? 7. Explain the action of emetics. 8. What is the composition of (*a*) Dover's powders, (*b*) Fowler's solution? 9. What are counter-irritants? Explain their action and the rationals of their use in disease. Enumerate four in the order of efficiency. 10. Give the method of elimination and the end product of (*a*) ether, (*b*) salol, (*c*) iodid of potash, (*d*) methylene blue, (*e*) scilla.

NERVOUS DISEASES AND DISEASES OF THE EYE AND EAR.

1. Name two organic diseases of which Argyll-Robertson pupil is a frequent and important diagnostic symptom. 2. Name three forms of sclerosis of the spinal cord. Give the conditions of the reflexes in each, and describe the condition of the lower extremities. 3. If a patient complains of a pain in his head, dizziness and vomiting, all of which symptoms had existed for two or three months, what condition would be indicated? 4. In right-sided hemiplegia to which side is the tongue directed when protruding, and explain why. 5. Give the prognosis of (*a*) brain tumor, (*b*) facial palsy, (*c*) acute chorea, (*d*) acute anterior poliomyelitis of childhood, (*e*) acute meningitis, (*f*) multiple neuritis, (*g*) cerebral palsy of infancy, (*h*) epilepsy. 6. By what lesion of the eye can a diagnosis of chronic nephritis be made? 7. Give the etiology, symptomatology and diagnosis of trachoma, and give the method of treatment. 8. (*a*) What is chalazion and its appropriate treatment? (*b*) What is entropion and give its treatment? 9. Name three diseases of the external auditory canal and their respective treatment. 10. Enumerate the instruments that the general practitioner should have for examining the ear, and describe the ordinary method of examination and the appearance of the parts in health.

SURGERY.

1. What method would you employ in the treatment of talipes in an infant? At what age would you begin? 2. Give symptoms and diagnosis of an impacted fracture of the neck of the femur, including in detail all the landmarks employed in the differential diagnosis. 3. Give etiology and treatment of an ununited fracture of a long bone. 4. Name types of fistulæ in ano, and describe the methods of treating the same. 5. Give symptoms, diagnosis, prognosis and treatment of fracture of the base of the skull. 6. What are the more common accidents of anesthesia, and how would you combat them? 7. Name three types of sarcoma. Give the more common location of each and the general characteristics of one only. 8. Give in detail the treatment of strangulated hernia. 9. Give the etiology, pathology and treatment of varicose ulcers. 10. (*a*) Give the differential diagnosis between chancre, chancroid and herpes preputialis. (*b*) Give in detail the proper treatment of syphilis.

HOMEOPATHIC MATERIA MEDICA.

1. Define polychrest, potency, dilution, trituration. 2. Differentiate between phytolacca and kali bich. in angina faucium. 3. Select three remedies useful in cholera infantum. Give symptoms calling for each. 4. Give prominent symptoms of baptisia, rhus, bryonia, and gelsemium in typhoid fever. 5. Differentiate the heart symptoms of digitalis, cactus grand., spigelia, and kalmia lat. 6. Differentiate the gastric symptoms of ipecac, antimonium tart., and arsenicum. 7. Give mental symptoms of each of the following remedies: Stramonium, hyoscyamus, ignatia, aurum, calcarea carb. 8. Select three remedies useful in dysmenorrhea. Give symptoms calling for each remedy. 9. Differentiate the rhumatic symptoms of rhus, bryonia, colchicum. 10. Diffrentiate the skin symptoms of apis, rhus and silicea.

ECLECTIC MATERIA MEDICA AND THERAPEUTICS.

1. Classify the agents acting on the respiratory tract, and name three of each class. 2. Name five agents to act on the stomach, and give the properties of each agent named and the indication for its use. 3. Name three agents that influence the pancreas, liver and intestines, specifying a stimulant and a relaxant for each. 4. What agents influence the character of the blood? Name at least six. 5. What remedies would you use in treating a case of spermatorrhea and nocturnal emissions? What remedies would you use in chlorosis? 6. Name the agents you would use in expelling oxyuris vermicularis to obtain their ultimate extinction. 7. Give the treatment for an aggravated case of bronchitis with profuse expectoration, and also for one in which there is a dry and irritable cough. 8. Give in detail the treatment of cerebrospinal meningitis. 9. What means and agents would you employ in treating a case of chronic articular rheumatism? What results would you expect? 10. Give a brief synopsis of treatment of lobar pneumonia, naming all the agents you would use.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending March 24, 1906:

Hall, John D., asst.-surgeon general, retired from active service, March 17, 1906.

Chamberlain, W. P., asst.-surgeon, having reported arrival at San Francisco, Cal., will proceed to and take station at Jackson Barracks, La.

Little, Wm. L., asst.-surg., relieved from duty at Jackson Barracks, La., and ordered to Fort Sam Houston, Texas, for duty.

Carswell, R. L., asst.-surgeon, having reported his arrival at San Francisco, Cal., will proceed to and take station at Depot of Recruits and Casuals, Fort McDowell, Angel Island, Cal.

Gapen, Nelson, asst.-surgeon, relieved from duty at Depot of Recruits and Casuals, Angel Island, Cal., and ordered to Columbus Barracks, Ohio, for duty.

Carswell, R. L., asst.-surgeon, granted 30 days' leave of absence.

Carroll, James, asst.-surgeon, detailed to represent the Medical Department of the Army at the annual meeting of the Louisiana State Medical Society, New Orleans, La., from May 8 to 10, 1906.

Gandy, Charles M., surgeon, relieved from duty at Fort Wayne, Mich., and ordered to West Point, N. Y., for duty, to relieve Lieut.-Colonel H. O. Perley, deputy surgeon general.

Perley, H. O., deputy surgeon-general, relieved from duty at U. S. Military Academy, West Point, N. Y., and ordered to the Philippine Islands, where, on arrival, he will report to commanding general, Philippines Division, for assignment to duty.

Hammond, William G., dental surgeon, relieved from duty in the Philippines Division, and ordered to the United States on the first transport after July 1, 1906.

Long, Stephen M., contract surgeon, left San Francisco, Cal., on leave of absence for one month.

McMillan, Clemens W., contract surgeon, ordered from Fort Trumbull, Conn., to Fort Terry, N. Y., for temporary duty.

Suggs, Frank, contract surgeon, granted leave of absence for two months.

Tukey, William H., contract surgeon, granted an extension of seven days to his leave of absence.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending March 24, 1906:

Zalesky, W. J., asst.-surgeon, detached from the *Yankee* and ordered to the *New York*.

Campbell, F. E., asst-surgeon, detached from the *Newport*, and ordered home to wait orders.

Brown, E. M., P. A. surgeon, orders of March 5 revoked; detached from the Naval Medical School, Washington, D. C., and ordered home to wait orders.

Grieve, C. C., asst.-surgeon, detached from the *Frolic* and ordered to the *Wilmington*.

Flint, J., asst.-surgeon, ordered to the *Franklin*.

Cohn, I. F., asst.-surgeon, ordered to the Naval Hospital, Norfolk, Va.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending March 21, 1906.

Austin, H. W., surgeon, granted four months' leave of absence, from March 28, 1906, with permission to go beyond sea.

Young, G. B., P. A. surgeon, directed to report to Asst.-Surgeon General W. J. Pettus, chairman of board of examiners, April 2, 1906, at Washington, D. C., to determine his fitness for promotion to grade of surgeon.

Wickes, H. W., P. A. surgeon, leave of absence granted for two days from March 16, 1906, revoked.

Lavinder, C. H., P. A. surgeon, relieved from duty at Stapleton, N. Y., and directed to proceed to Detroit, Mich., and assume temporary command of service during the absence of Surgeon H. W. Austin.

Boggess, J. S., asst.-surgeon, relieved from duty at Cape Charles Quarantine Station and directed to proceed to Stapleton, N. Y., reporting to the medical officer in command for duty and assignment to quarters.

Collins, Geo. L., asst.-surgeon, relieved from duty at Reedy Island Quarantine Station and directed to proceed to Cape Charles Quarantine Station and assume command of the service.

Long, H. D., asst.-surgeon, granted leave of absence for seven days from March 10, 1906, under paragraph 191 of the regulations.

de Valin, Hugh, asst.-surgeon, relieved from duty at Baltimore, Md., and directed to proceed to Reedy Island Quarantine Station, reporting to the medical officer in command for duty and assignment to quarters.

Primrose, R. S., acting asst.-surgeon, granted leave of absence for 30 days, from March 18, 1906.

McKay, Malcolm, pharmacist, granted one day's leave of absence.

BOARD CONVENED.

A board of medical officers was convened to meet in Baltimore, Md., March 21, 1906, for the physical examination of an officer of the Revenue Cutter Service. Detail for the board: Surgeon L. L. Williams, chairman; Asst.-Surgeon W. H. Frost, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the surgeon-general, Public Health and Marine-Hospital Service, during the week ended March 23, 1906:

SMALLPOX—UNITED STATES.

California: San Francisco, March 3-10, 7 cases.
Delaware: Wilmington, March 10-17, 3 cases.
Florida: Jacksonville, March 10-17, 3 cases.
Georgia: Augusta, March 12-19, 2 cases.
Indiana: Indianapolis, March 11-18, 1 case.
Louisiana: New Orleans, March 10-17, 12 cases; Shreveport, 1 case.
Maine: Biddeford, March 10-17, 6 cases.
Maryland: Baltimore, March 10-17, 5 cases.
Missouri: St. Louis, March 10-17, 3 cases, 1 death.
Montana: Broadwater County, Feb. 1-28, 2 cases; Lewis and Clark County, 1 case; Missoula County, 2 cases; Silver Bow County, 1 case.
New York: Buffalo, 1 case.
North Carolina: Nineteen counties, Dec. 1-31, 374; 23 counties, Jan. 1-31, 438 cases.
Ohio: Cincinnati, March 9-16, 3 cases; Hamilton, Feb. 10-17, 1 case.
Tennessee: Knoxville, March 10-17, 1 case; Memphis, March 3-17, 5 cases.
West Virginia: Wheeling, March 10-17, 6 cases.
Wisconsin: Appleton, March 10-17, 2 cases; Beloit, March 3-10, 1 case: Milwaukee, March 3-17, 3 cases.

SMALLPOX—FOREIGN.

Africa: Capetown, Jan. 27-Feb. 10, 7 cases.
Brazil: Rio de Janeiro, Feb. 11-18, 3 cases.
Canada: Grand Falls, N. B., March 15, 18 cases; Winnipeg, March 3-10, 1 case.
Germany: Bremen, Feb. 24-March 3, 1 case.
Gibraltar: Feb. 25-March 4, 9 cases, 1 death.
Great Britain: Leeds, March 3-10, 1 case; London, Feb. 17-March 3, 4 cases.
Greece: Athens, Feb. 6-20, 5 deaths.
India: Calcutta, Feb. 3-10, 141 deaths; Karachi, Feb. 11-18, 33 cases, 8 deaths; Madras, Feb. 10-16, 36 deaths; Rangoon, Feb. 3-10, 56 deaths.
Malta: Feb. 18-24, 1 case.
Mexico: Tuxpam, Feb. 27-March 6, 5 deaths.
The Netherlands: Rotterdam, Feb. 25-March 3, 1 case, 1 death.
Russio: Moscow, Feb. 10-24, 22 cases, 5 deaths; Odessa, Feb. 17-March 3, 25 cases, 3 deaths; St. Petersburg, Feb. 17-24, 4 cases, 3 deaths.
Spain: Barcelona, Feb. 19-March 1, 6 deaths; Tarragona, Feb. 25-March 3, 1 death.
Turkey: Alexandretta, Feb. 17-24, 15 cases; Constantinople, Feb. 18-25, 2 deaths; Uruguay: Montevideo, Dec. 1-31, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, Feb. 1-18, 9 cases, 3 deaths.
Mexico: Merida, Feb. 24-March 3, 2 cases.

CHOLERA—INSULAR.

Philippine Islands: Manila, Jan. 20-27, 3 cases, 2 deaths; Provinces, 348 cases, 247 deaths.

CHOLERA—FOREIGN.

India: Calcutta, Feb. 3-10, 83 deaths; Rangoon, 3 deaths.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Feb. 11-18, 5 cases, 1 death.
India: General, Jan. 27-Feb. 10, 13,232 cases, 10,932 deaths; Calcutta, Feb. 3-10, 30 deaths; Karachi, Feb. 11-18, 6 cases, 8 deaths; Madras, Feb. 10-16, 9 deaths; Rangoon, Feb. 3-10, 20 deaths.

Medical Organization

Connecticut.

BRISTOL MEDICAL ASSOCIATION.—This association effected permanent organization February 13, adopted constitution and by-laws, and elected Dr. William W. Horton, president; Dr. George S. Hull, vice-president; Dr. Arthur S. Brackett, secretary and treasurer, and Drs. Herbert D. Brennan, Fred W. Deichman and William M. Curtiss, censors.

COLLINSVILLE MEDICAL SOCIETY.—This society was organized February 14, with the following officers: President, Dr. George F. Lewis, and secretary, Dr. E. A. Hotchkiss.

NORTH HARTFORD COUNTY MEDICAL SOCIETY.—Physicians of the northern part of Hartford County met at Thompsonville, February 16, in response to an invitation from Dr. Edward F. Parsons. Temporary officers were elected as follows: President, Dr. Edward F. Parsons, Thompsonville; secretary, Dr. Myron P. Robinson, Windsor Locks, and treasurer, Dr. John L. Bridge.

Georgia.

DECATUR COUNTY MEDICAL SOCIETY.—This society was recently organized at Bainbridge, on the standard plan. Dr. Vega Berry was elected president; Dr. Gordon Chason, vice-president, and Dr. Henry H. Cheatham, secretary and treasurer, all of Bainbridge.

HANCOCK COUNTY MEDICAL SOCIETY.—The physicians of Hancock County met February 27 with Dr. W. W. Pilcher, Warrenton, councilor for the tenth district, at Sparta, and organized this society on the standard plan. The following officers were elected: President, Dr. R. C. Wiley, Sparta; vice-president, Dr. R. G. Stone, Linton; secretary and treasurer, Dr. James G. Harrison, Sparta; censors, Dr. R. G. Pattillo, Culverton; Horace R. Darden, Sparta, and R. L. Ray, and delegate to the state association, Dr. Alexander F. Durham, Sparta.

Indiana.

TWELFTH DISTRICT MEDICAL SOCIETY.—The first annual meeting of this society was held in Fort Wayne, March 13, on call of Dr. A. E. Bulson, Jr., Fort Wayne, councilor for the twelfth district. The following officers were elected: President, Dr. William H. Myers, Fort Wayne; vice-presidents, Drs. Luzerne H. Cook, Bluffton, and Frank Broughton, Waterloo; secretary, Dr. Kent K. Wheelock, Fort Wayne, and treasurer, Dr. Walter F. Carver, Albion. The society adopted the following resolutions regarding the concentration of the medical colleges of the state into one large college at Indianapolis, to be operated under state auspices through Purdue University:

Resolved, That in view of the fact that the Indiana Medical college buildings and equipments have been donated to the state of Indiana through Purdue University, conditioned only on the maintenance of a complete medical school in Indianapolis under state control, we believe it the duty of the state to make its title to this property good by the remaining legal step, namely, legislative approval of a gift especially fitted for medical college purposes and worth over $100,000.

Resolved, That this society will use its influence in every possible way to further the interest of this school and will view with disfavor any attempt to antagonize the action taken, and that we are unable to see any good reason for opposition of the accomplishment of this long-desired purpose, and can only recognize opposition as being the expression of disappointed individual ambition or a jealous rivalry founded on a false idea as to the effect on the interests of other institutions.

Society Proceedings

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Boston, June 5-8.

Medical Association of the District of Columbia, Washington, April 3.

Tennessee State Medical Association, Memphis, April 10.

Medical Association of the State of Alabama, Birmingham, April 17.

Medical Society of the State of California, San Francisco, April 17-19.

Florida Medical Association, Gainesville, April 18.

Medical Association of Georgia, Augusta, April 18.

Mississippi State Medical Association, Jackson, April 18.

South Carolina Medical Association, Columbia, April 18.

State Medical Association of Texas, Fort Worth, April 24-26.

Arizona Medical Association, Phoenix, April 24-25.

Medical and Chirurgical Faculty of Maryland, Baltimore, April 24-26.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

Sixteenth Annual Meeting, held at Pittsburg, March 19, 1906.

The President, DR. S. C. JAMES, in the Chair.

Officers Elected.

The following officers were elected to serve for the ensuing year: President, Dr. George M. Kober, Washington, D. C.; vice-presidents, Drs. F. C. Waite, Cleveland, and H. W. Loeb, St. Louis; secretary-treasurer (re-elected), Dr. Fred C. Zapffe, 1764 Lexington Street, Chicago; judicial council, Drs. W. J. Means (chairman), 715 North High Street, Columbus, Ohio; R. Winslow, Baltimore; T. H. Hawkins, Denver; H. B. Ward, Lincoln, Neb.; Eli H. Long, Buffalo; B. D. Myers, Bloomington, Ind.; J. M. Flint, San Francisco.

In his address as president, Dr. James urged the establishment of uniform requirements and curricula by all medical colleges, thus furthering the work now being done by state boards having in view interstate reciprocity.

Credit for Baccalaureate Degrees.

DR. CHARLES MCINTIRE, Easton, Pa., favored giving credit in the medical course for work done in the literary college.

DR. FREDERICK S. LEE, Columbia University, is convinced that it is hardly possible for medical subjects to be taught efficiently in the literary school. The object of the training given by the college is fundamentally different from that given by the medical school, and this difference connotes a difference in method. The college gives the general development that is helpful in obtaining the special equipment and making proper use of it. That the ends of the medical training may be secured, it is above all things essential that the knowledge acquired by the student in the school of medicine be exact, specific, abundant, and always at the service of the individual. In these respects the training of the college is markedly inferior. The so-called medical subjects are taught in the literary college as pure sciences, while in the medical college they are taught as applied sciences. Many of the subjects contained in the medical curriculum are taught excellently in the literary college, but they can not serve a greater purpose than that of being introductory to the work taught in the medical school. Therefore, Dr. Lee believes that no credit shall be allowed by the medical schools for work done in strictly medical subjects, in literary colleges, except in occasional specific instances and for unusually cogent reasons. If the literary colleges are able to give substantially the same courses as those given by the medical schools, there can be no objection to the substitution, but, humanly speaking, that is an impossibility. Furthermore, it would be a mistake for the literary colleges to attempt to compete with the medical schools in the field of the latter. They are not equipped properly and from the nature of the case they can not be equipped properly with spirit, instructors or method for professional training and the latter, if undertaken by them, can only be unsatisfactory and inadequate. The medical school is the proper place for medical instruction.

DR. F. C. WAITE, Western Reserve University, is of the opinion that some of the courses given in the medical school can be taught fully as well, and in some instances better, by the literary college than by the medical college. He mentioned particularly osteology, elementary physiology, inorganic chemistry, bacteriologic technic and the bacteriology of non-pathogenic bacteria, and the principles of embryology, or about 700 hours of the first year of the medical course.

PROF. C. JUDSON HERRICK, Denison College, stated that few colleges are prepared to do any work in this direction, nor is there any evidence of an intention on their part to attempt to do this work until the medical colleges state specifically what they will accept as the equivalent of the work done by them.

Examining Boards and Medical Colleges.

DR. B. D. HARISON, Detroit; DR. B. F. BAILEY, Lincoln, Neb., and PROF. C. F. WHEELOCK, Albany, discussed how medical colleges can be of service to registration and examining boards. As the result of this discussion the secretary of the association was appointed a committee to confer with the others named.

DR. M. M. HAMLIN, St. Louis, discussed interstate reciprocity and outlined the course pursued by the Missouri board.

Proposed Amendment.

DR. J. R. GUTHRIE, Dean of the Medical Department of the University of Iowa, suggested that at the next annual meeting of the association the constitution be amended by striking out all reference to credits that may be allowed for work done in non-medical institutions, making attendance on four years of medical work in a medical college a requirement for graduation.

Amendments to Constitution.

By unanimous consent subsection (d) of Section 1, Article III, was amended to read as follows: Certificates from reputable instructors recognized by the State Board of Medical Examiners duly authorized by law, or by the superintendent of public instruction in states having no examining board, may be accepted in lieu of any part of this examination.

Section 2 of Article III was amended to conform with the above by inserting after the words "under the authority of," the following: "the Board of Examiners or."

The next meeting of the association will be held in Richmond, Va., March 18, 1907.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting Held Feb. 14, 1906.

The President, DR. CHARLES K. MILLS, in the Chair.

DR. JOHN B. ROBERTS exhibited a dilated Meckel's diverticulum of the ileum which had caused strangulation of the intestine and obstruction.

Prognosis in Tuberculosis of the Lungs.

DR. JOSEPH WALSH said that prognosis must be viewed from two points: Absolute and practical cure. The latter viewpoint was especially considered. Primary factors in the prognosis of tuberculosis in regard to usefulness or practical cure are the amount of involvement, duration of disease, susceptibility to the toxin as manifested by rapid pulse, high temperature, and loss of weight, the dissemination and the association of complications. Secondary factors, which, however, in individual cases might become of prime importance, are age, sex, race, condition of life, intelligence, temperament, occupation or environment, and financial resources. Among the primary factors the amount of involvement is probably the least important. One patient with involvement of only one or two inches at the top of the lung, if other symptoms are severe, might die; while another patient with practically complete involvement of a whole lung, might recover so as to lead a useful life for an indefinite number of years. Marked toxic symptoms, such as rapid pulse, high temperature, and either rapid or considerable loss of weight, make the prognosis unfavorable. The reverse of this is likewise true. Under weight counts practically the same, or even a little more than loss of weight. Laryngeal tuberculosis has usualy been considered of bad prognostic importance for the reason that laryngeal tuberculosis is a rare primary condition and usually occurs only in association with considerable lung involvement. Practically the same, Dr. Walsh thought, might be said of intestinal tuberculosis.

A previous history of tuberculosis of the cervical glands, tuberculosis of the lungs associated with fistula-in-ano, and a previous pleurisy gives a better prognosis. Complications on the part of the lungs themselves, the heart, the kidneys and the digestive tract rendered the prognosis less good.

The most critical age is the time between 15 and 25. The more remote the age on either side the better the prognosis. The better the environment in which the patient has been living, the worse the prognosis. The only remedy for the prevention or cure of tuberculosis is a regular life with sufficient rest, fresh air and good nourishment. If the patient has had these, and the tuberculosis has developed in spite of them, the susceptibility is so great that a cure is not likely. On the contrary a tuberculosis may have developed on account of bad environment and little nourishment, and such a patient's resistance may be good. If he is put under proper conditions, however, it usually happens that when a cure is effected, for pecuniary reasons it is necessary to return to the old environment and the chances of a relapse are great. Consequently the worse the environment the better the prognosis, though the greater the likelihood of eventual relapse. The longer the patient has had the disease, other things being equal, the better the prognosis.

Roentgen Treatment of Some Non-Malignant Superficial Lesions.

DR. CHARLES LESTER LEONARD said that definite indications for employing the Roentgen rays have been determined in the treatment of superficial lesions; and that a dosage that is sufficiently accurate for comparison and for efficient employment is known. The most valuable treatment by this method is the post-operative, that is, in combination with early operation. He included among the superficial lesions those glandular organs that lie beneath the surface and spoke of the remarkable results that had been produced in tubercular and simple adenitis and the sinuses that often follow operation.

He reported four cases of goiter in which the treatment had been applied for its alterative action, and because of the analogous character of their structures to fibrous malignant disease, in which beneficial results had often been seen. One patient had remained cured for three years. It was a case of chronic, simple goiter of twenty years' standing. A second had remained cured eighteen months since treatment was stopped, with entire absence of nervous symptoms. A third patient, a case of exophthalmic goiter, was much improved, but discontinued treatment. A fourth patient is improving under treatment.

The depillatory action of the ray has been found of great value in sycosis, favus, ringworm and hypertrichosis. The stimulant action due to modification in dosage was illustrated by the beneficial action in alopecia areata. Lupus illustrated the several lesions that yield rapidly to this treatment, with a remarkable restoration of the normal, and without breaking down the tissues. He also reported a number of severe and chronic cases of eczemas and psoriasis, varying from seven to twenty years in duration, that yielded to this method of treatment. Another group of difficult cases amenable to this treatment are the acnes. Here rapid results are obtained without scarring or disfigurement. Keloids, especially those that have taken on retrograde degeneration of a malignant type, are amenable to this method of treatment.

Exophthalmic Goiter Treated by the Roentgen Rays.

DR. G. E. PFAHLER and DR. M. C. THRUSH reported the case of a young woman who had the nervous symptoms extending over a period of several months. Then the right lobe of the thyroid gland became enlarged. After the goiter had existed for two months *x*-ray treatment was begun. After twenty-two treatments extending over a period of two months she appeared to be well. Improvement was noticed after a month. She gained 25 pounds in weight, and the pulse fell from 120 to 72. The authors have collected thirty-one cases of goiter, including four of the exophthalmic type, treated by this method. Twenty-eight showed improvement.

Calomel in Eclampsia.

DR. W. REYNOLDS WILSON said that irritation of the kidneys begins early in pregnacy and imposes a task on the renal epithelium which makes the balance between the production of toxin and the compensatory elimination extremely precarious. The function of the liver goes hand in hand with that of the kidneys, and when the toxic ingredients of the blood remain unaffected by the converting function of the liver, the burden on the kidneys becomes too great and eclampsia is the result. The action of the bile as a preventive of intestinal fermentation hangs also on the efficiency of the liver function. Calomel is, therefore, indicated in the therapeusis of eclampsia, first, on account of its diuretic effect; second, on account of its hydragogue action, which aids in elimination; and third, on account of its corrective effect in the presence of intestinal fermentation. Ten, fifteen and twenty grains, given in the convulsive stage, while opportunity for medication is present, seem to have the best effect. Morphia, as an adjunct, is very important, although it is regarded by Dr. Wilson as an un-

desirable sedative in the presence of an old nephritis. Its use, however, is strongly urged on account of its action in combating the undesirable effect of calomel, as shown in salivation and undue purgation, although the latter effect of calomel is never to be taken into consideration as a disadvantage.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Treatment of Cold in the Head.

In a case of ordinary cold in the head the best results are obtained, according to F. P. Atkinson in *British Med. Jour.*, by the following treatment:

℞. Spts. etheris nitrosi
Spts. ammon. arom., āā.....3ss 2
Aquæ .....℥i 30

M. Sig.: To be taken at one dose and repeat in two hours, then once every four hours.

If there be a thick discharge from the nose the following is recommended as an insufflation:

℞. Cocainæ hydrochlor.....gr. i .06
Menthol .....gr. ii .12
Acidi borici.....gr. C 6 .65

M. Sig.: A small amount to be used as an insufflation into the nares two or three times a day.

[Care should be taken to prevent the unauthorized refilling of this prescription.]

If the inflammation should extend to the trachea as shown by a tickling sensation in the throat when a deep breath is taken, Atkinson recommends the following combination:

℞. Liq. ammon. acetat.....3ii 8
Spts. etheris nitrosi.....gr. x .65
Aquæ .....℥i 30

M. Sig.: To be taken at one dose and repeat every four hours.

In the treatment of cold in the head or acute rhinitis, Ingals recommends daily sponging of the chest with cold water or salt water, bathing the feet every morning in cold water, as prophylactic measures, and the avoidance of sudden exposure, damp clothing and wet feet. In the beginning an attack may frequently be aborted by moderately large doses of opium, quinin or the ammonium salts. The following combination is recommended in the early stages of the disease:

℞. Morphinæ sulph.....gr. 1/8 .008
Atropinæ sulph.....gr. 1/120 .0005
Pulv. ipecac. comp.....gr. x .65
Quininæ sulph.....gr. vi .40

M. Ft. cap. No. i. Sig.: One such capsule at bedtime, followed by a hot drink.

Preparations containing ammonium carbonate or ammonium chlorid combined with liquor ammonii acetatis are recommended by Ingals. He speaks of the advisability of reducing the amount of liquids to a minimum during the active course of the disease. The attack may be cut short by the administration of the spirits of camphor in 10-drop doses, administered on a lump of sugar, or potassium nitrate in 5-grain (.30) doses, or spirits etheris nitrosi in 20-minim (1.30) doses, or solution of ammonium acetate in 2-dram (8.00) doses, repeated from time to time.

Inspiration through the nose of warm vapors or sprays of mild solutions similar to the following are recommended:

℞. Ammonii chloridi.....gr. ii .12
Aquæ .....℥i 30

M. Sig.: As a spray for the nose. Or:

℞. Acidi borici.....gr. viii .50
Aquæ .....℥i 30

M. Sig.: To be used as a spray or wash to the nose.

Oil sprays should follow the use of these watery sprays as the oil is sedative in character.

Epilepsy.

In the treatment of epilepsy in a man 57 years of age who had suffered from the disease for fifty-two years, Matthew Woods, in *Med. Record*, recommended that the patient be placed on a vegetable diet, with a small amount of meat taken in the middle of the day. The supper consisted of tea or coffee, with bread and butter, avoiding such articles as cabbage, veal, pork, cooked tomatoes, pastry and other foods which were liable to undergo fermentation.

The following combination was ordered to be taken before each meal and at bedtime:

℞. Pulv. capsici.....gr. 1/10 .006
Strych. sulph.....gr. 1/30 .002
Ferri hydrocyanatis.....gr. 1/2 .03

M. Ft. pillula No. i. Sig.: One before each meal and at bedtime.

The following was also prescribed:

℞. Potassii bromidi.....3iss 6

M. Ft. chart. No. iv. Sig.: One powder to be given at 8 a. m., 12 m., 4 p. m. and 8 p. m., well diluted with water.

The quantity of water was to be increased one ounce every week until each dose was taken in 12 ounces of water. When the attacks were nocturnal the last two doses were to be combined, taken at 9 o'clock in a pint of water.

Syphilis.

In the treatment of syphilis F. R. Sturgis, in his "Manual of Venereal Diseases," states that the initial lesion should not be cauterized unless it be attacked by phagedena when such a proceeding is admissible. When there are no complications, however, it may do harm. Mercury should not be used internally at this stage of the disease, as the appearance of the syphilide is retarded and the diagnosis rendered doubtful until several months have passed. Consequently no harm is done by withholding this treatment until ample time has been given for their appearance.

When the patient's appearance shows the presence of the syphilides, associated with mucus patches in the throat and on the tongue, alopecia, hemicrania and glandular induration, mercury is indicated, and there is no preparation, according to Sturgis, which can act as a suitable substitute. During this period of papular eruption, therefore, the following combination is recommended:

℞. Massæ hydrargyri.....gr. ii .12
Ferri sulph. (exsiccated).....gr. i .06

M. Ft. pillula No. i. Sig.: From three to six such pills a day.

It is best to begin with one pill three times a day after meals, and to increase the number to two, three times a day.

The bichlorid of mercury is recommended by some authorities, administered as follows:

℞. Hydrargyri bichloridi....gr. 1/50 to 1/10 .0012-.006
Saponis q. s.....

M. Sig.: One such pill after each meal.

If necessary to check the action of the mercury on the bowels, opium in doses of gr. 1/5 to 1/4 (.012-.015), may be added to each pill.

Mercury may be given in another form as follows:

℞. Hydrargyri protoiodidi.....gr. 1/5 to 1/12 .012-.03
Ext. gentianæ.....gr. i .06

M. Ft. pillula No. i. Sig.: One such pill three times a day.

This author prefers blue mass and iron pill on account of its efficacy and tolerance by the system.

The mercury should be continued until all the symptoms have disappeared or toxic conditions have arisen, such as diarrhea, sponginess of the gums and salivation. The last symptom should be avoided, if possible, so that the administration of mercury will not have to be stopped. If salivation should arise all the treatment should be suspended and the following combination prescribed:

℞. Potassii chloratis 3i 4
Aquæ .....℥vi 180

M. Sig.: To be used locally as a mouth wash, and internally in teaspoonful doses, four times a day.

The foregoing checks the sponginess of the gums, the fetor of the breath and the flow of saliva. Other preparations which perform similar service are the following:

℞ Tinct. belladonnæ.....3ii-iv 8-15
Aquæ .....℥ii 60

M. Sig.: One teaspoonful four times a day in water.

Atropin may be used in preference to belladonna as follows:

℞ Atropinæ sulph.....gr. 1/10 .006
Alcoholis .....℥ss 15
Aquæ q. s. ad.....℥ii 60

M. Sig.: One teaspoonful three or four times a day.

The potassium chlorate should be used as a mouth wash along with the internal use of the belladonna preparation.

If the sponginess is excessive and dropping out of the teeth is threatened, nitric acid is recommended as follows:

℞ Acidi nitrici dil.....3iv 15
Aquæ .....℥ii 60

M. Sig.: One teaspoonful four times a day in water.

As soon as the secondary symptoms have disappeared and no staining of the skin is left from the eruptions, the mercury should be discontinued in order not to create too great a tolerance by the system for the drug, and also to determine whether or not other lesions are about to follow. As the later stages of the disease are reached the mixed treatment should be substituted as follows, if it is decided to give the mercury internally:

℞ Hydrargyri protoiodidi.....gr. ss-i .03-.06
Ext. gentianæ.....gr. i .06

M. Sig.: In one dose once daily, before lunch. And:

℞ Potassii iodidi 3ii 8
Tinct. cinchonæ comp
Tinct. gentianæ, āā.....℥ss 15
Aquæ q. s. ad.....℥ii 60

M. Sig.: One teaspoonful well diluted in water, morning and evening, before meals.

The iodides may be administered in the form of a saturated solution well diluted in water, milk or Vichy water.

The mercury and iodid may be combined and given in the same mixture as follows:

℞ Hydrarg. bichloridi.....gr. 1/4-i .015-.06
Or
Hydrarg. biniodidi.....gr. 1/4-i .015-.06
Potass. iodidi 3ii 8
Tinct. gentianæ
Aquæ, āā .....℥i 30

M. Sig.: One teaspoonful well diluted in water twice a day, before meals.

The preparations are recommended, given before meals, to promote rapid absorption unless stomach and intestinal disturbances arise. If it is preferable for any reason to give mercury other than by the mouth it may be given in the form of an inunction or by means of mercurial vapor baths, or subcutaneously.

In order to avoid the dirty feeling produced by the greasy substances applied to the skin Sturgis recommends that the oleate of mercury be applied to the soles of the feet in from 10 to 20 per cent. strength. The patient should be directed to bathe the feet thoroughly in hot water on the night on which the first inunction is to be applied, then half a dram of the 20 per cent. oleate of mercury is rubbed briskly into the sole of the right foot, and this is repeated the following night on the left foot. The same stockings, which should be of wool, are worn night and day. The administration of iodid of potassium should be kept up continuously. If this preparation can not be borne the following combination is recommended:

℞ Tinct. iodi.....℥ss 15
Syr. aurantii q. s. ad.....℥iv 120

M. Sig.: One teaspoonful well diluted in water, three times a day, before meals.

The foregoing dose should be increased in the same way as the potassium iodid.

The following statements are laid down by the author in considering the treatment of syphilis:

1. The average case of syphilis runs its course in from eighteen to twenty-four months.

2. Under proper and careful treatment the graver forms of syphilis seldom occur.

3. The patient should be observed occasionally for another eighteen months.

Why Mercury Is Contraindicated in Tuberculosis and Other Wasting Diseases.

PRESCRIBER writes for information concerning the statement in the special article on "The Pharmacopeia and the Physician," in Chapter VIII, Feb. 17, 1906, page 507, to the effect that the mercurials are contraindicated in chronic conditions.

A satisfactory answer to this question necessitates a brief statement of the pharmacologic action and consequent therapeutic uses of mercurial preparations. For a long time mercurials have been employed by the medical profession, and it seems that after many years of extensive use, knowledge on this subject should begin to crystallize, and it has, in a way. The crystals are not perfect and recrystallization will doubtlessly to be repeated from time to time, but our knowledge concerning the action and value of mercurials in the treatment of disease is much more positive and exact than our knowledge of the great majority of medicaments prescribed daily by the most intelligent members of the profession.

The therapeutic uses of mercurials apparently approved by professional experience are as follows:

1. As a cathartic. We have been repeatedly told by physiologists and pharmacologists, who have experimented on animals with artificially established biliary fistulas, that mercury is not a cholagogue. Indeed, these scientific men tell us that there is not a real cholagogue in our whole list of therapeutic agents, and by this they mean that there is nothing which in safe doses at least will increase measurably the quantity of bile formed by the liver within a given time. This is probably true, and it is well that it is so, because if we possessed such an agent it would be capable of doing great harm, and it is difficult to conceive of conditions in which it would be of great service. What the practitioner means by a "cholagogue" is an agent which aids in the expulsion of bile from the gall bladder and gall ducts into the intestines, and in certain conditions the practitioner, from thousands and tens of thousands of practical observations, is convinced that he has such an agent in calomel and other mercurials. On this point the findings of the laboratory men have been contradictory to one another, or at least not uniform, but the intelligent physician knows that he frequently meets a condition which after all is best described by the term "biliousness," in which the mercurial cathartic gives him better results than anything else. In the second place, experience in this case confirmed by more scientific evidence, shows that the mercurials furnish good, in some conditions the best, antifermentative cathartics. Our profession has learned, by its mistakes, that the continued administration of mercurial cathartics is not free from danger, but it has with equal certainty established the fact that in single large or in broken doses calomel in properly selected cases gives better results than any other purgative.

2. The specific action of the mercurial preparations in syphilis is as well established as that of quinin in malaria. The evidence on this point is overwhelmingly convincing. Mercury, in whatever form or by whatever avenue administered, combines with proteids, and the inference from its specific action in syphilis is that it has a selective effect on the virus of syphilis and the proteids of cells that have been altered by this virus. In non-syphilitics the continued administration of mercury leads to cellular degenerations and disintegrations. This is shown conclusively by the characteristic calcareous deposits in the kidneys in chronic mercurial poisoning. So frequently has this condition been observed and so carefully has it been studied that a diagnosis of mercurial poisoning may be made from this finding alone. It is pathognomonic.

It follows from what has been said that mercurials in other chronic diseases than syphilis are cell poisons. In tuberculosis and other wasting non-syphilitic diseases the chief object in the adoption of any therapeutic measures is to feed the cells of the body and not to destroy them. It follows, therefore, that in these diseases mercurials, at least their continued or frequent administration, is contraindicated.

In cases of coexistent syphilis and tuberculosis, mercurials are not contraindicated. In cases of this kind the regular syphilitic treatment should be carried out. It will have a good

effect on the patient by relieving the cells from the necessity of contending with the syphilitic virus and will thus indirectly and for the time improve the tuberculous condition. Even tuberculous syphilities, as well as the non-tuberculous, often gain markedly in flesh under mercurials.

Medicolegal

When Physician Can Not Testify as to Services.

The Supreme Court of Alabama says, in Duggar vs. Pitts, an action brought by the latter party against an executor to recover for professional services as a physician, where a rehearing was denied, that section 1794 of the Alabama Code of 1896 was intended to remove the ban of incompetency placed by the common law against parties of interest as witnesses, "except that no person having a pecuniary interest in the result of the suit or proceeding shall be allowed to testify against the party to whom his interest is opposed as to any transaction with or statement by the deceased person whose estate is interested in the result or proceeding." Can it be doubted for a moment that the testimony of the plaintiff as to the number of visits he made the deceased and what he did to relieve him, did not tend to fasten a liability on the estate of the deceased and to diminish the same, in view of the fact that the testimony of other witnesses as to the value of the plaintiff's services was hypothesized on the number of visits and character of the treatment? The court thinks not. It cites in support of its position the decision of the Texas Court of Civil Appeals under a similar statute, in the case of Garwood vs. Schlichenmaier, 25 Tex. Civ. App. 176, and the decision of the Supreme Court of New York in the case of Ross vs. Ross, 6 Hun, 182, which it says has been approvingly cited several times by said court. Nor does the court consider that the admission of the plaintiff's testimony was error without injury although there was much other evidence tending to establish his claim, and showing that he had treated the decedent faithfully and skillfully for a number of months. It says that, as above intimated, his was the only evidence fixing the number of visits, and while the evidence of other witnesses as to the value of services was partially based on facts independent of the plaintiff's testimony, yet the number of visits were considered in estimating the value of the plaintiff's services, which was not known to the witness whose evidence was partially hypothesized on the number of visits testified to by the plaintiff. And so it holds that the trial court erred in not sustaining the defendant's objections to questions to the plaintiff as to visits to the decedent, what he did for him, and how he relieved his suffering. It also holds that there was a failure to establish a predicate for the evidence of certain physicians as to the value of medical services in Selma, as each of them admitted that he did not know the customary charges in Selma and Dallas County.

Liability for Injury to Sick and Lame from Sidewalks.

The Supreme Court of Washington holds that in Short vs. City of Spokane, an action brought to recover damages for personal injuries on account of an alleged defective condition of a sidewalk, the following instruction should have been given the jury: The duty of caring and of abstaining from the unlawful injury of another applies to the sick, the weak, the infirm, as fully as to the strong and healthy; and when the duty is violated the measure of damages is for the injury done, even though injury might not have resulted but for the peculiar physical condition of the person injured, or may have been augmented thereby. The proximate cause of an injury is the efficient cause. The public streets and sidewalks in a city are not constructed and maintained for the sole use of the healthy and robust people, but for the use of the infirm, the sick and decrepit as well. They may be lawfully traveled by every citizen, without regard to age, sex or physical condition. If the city negligently permit the streets and sidewalks to remain out of repair, and any person (who is himself free from negligence) is injured, the city is liable for the injury. The city is chargeable with the knowledge that people of different bodily conditions travel its streets, and that among these are the weak, the decrepit and those with organic predisposition to disease. The city is chargeable with knowledge that all classes of persons, including both the healthy and diseased, and lame, constantly travel its streets and sidewalks, and that such disease or lameness might greatly aggravate a bodily injury. Hence the city has reasonable ground to expect that if one of that class, who are diseased or lame, is injured by reason of a defect in the sidewalk or street, the disease or lameness might develop and retard or prevent a cure.

Giving "Light Treatments," Etc., Practice of Medicine.

The Supreme Court of Tennessee says that the facts presented on the trial of the case of O'Neil vs. State were practically undisputed and embraced the following salient points: The first-named party, who was the defendant in the court below, charged with practicing medicine without a license, opened up an office with all the arrangements necessary for the treatment of his patients. According to the testimony, he would first subject his patients to a careful examination, including a microscopic test of a drop of blood taken from some part of the patient's body. He would then determine, from his diagnosis, the nature of the patient's ailment and whether or not it would require his treatment. It was shown in the record that the method of treatment was practically uniform in all cases. "The patient is denuded of clothing and placed in a closed cabinet, and his body is thereon subjected to the rays of two large electric arc lights, one being located in front of his body and one at the back. This treatment is continued for about thirty minutes at each sitting, and then the patient, who is by this time in a profuse perspiration, is taken into another room and rubbed off, after which he goes about his business. In addition to this general treatment a local application of the rays to the parts specially affected is made in some cases." In addition to prescribing the light treatment as the means of treatment for his patients, he gave medicines of various kinds, kept an account at a drug store where medicines were purchased, gave prescriptions in the form of orders on a certain store, advised several of his patients to take certain patent medicines as an auxiliary to his treatment, and was addressed and known as Dr. O'Neil. The record showed further that he was accustomed to make a uniform charge of $100 in each case, for the application of the light treatment, but made no charge for medicines prescribed; hence he claimed that prescriptions were no part of his treatment.

The principal contentions of the defendant were: 1. That his professional business was not within the purview of the statute regulating the practice of medicine and surgery, for the reason that he was an optician within one of the two recognized definitions of that term, and was, therefore, expressly excepted from the operation of the statute. 2. Conceding that his business was comprehended by the statute, as applied to him, said statute was unconstitutional for two reasons: First, His method of practice was not such as it was within the power of the legislature to regulate, restrict or prohibit; second, the regulation and requirements of the act, as applied to his methods of practice, were arbitrary and unjust, because his business did not require the qualifications prescribed by the statute for those undertaking to practice medicine and surgery. But the Supreme Court is of the opinion that he was properly convicted of practicing medicine and surgery without having first procured a certificate of license from the State Board of Medical Examiners, as required by the act of 1901. It suggests that the definition of "optician" ordinarily understood should be given that word in the statute. Moreover, as the proof showed that the defendant made a microscopic examination of the blood in his diagnosis of disease, and also wrote prescriptions and prescribed remedies, although it must be admitted that his principal mode of treatment was by what he denominated the "functional ray," he could not claim exemption as an optician even under the very technical definition of the word which he invoked. But the determinative fact against him on the record was that he was holding himself out to the world as a practitioner of the healing arts and was soliciting patients afflicted with disease for treatment.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

March 17.

1 *Without Mosquitoes There Can Be No Yellow Fever. J. Carroll, Washington, D. C.
2 *Gonorrhea in Women. P. Findley, Omaha, Neb.
3 *Foreign Bodies in the Bronchi. T. A. Claytor, Washington, D. C.
4 *Actinomycosis Limited to the Urinary Tract. E. MacD. Stanton, Chicago.
5 Pyremia, with the Report of Case in Which Autopsy Revealed Toxemia Rather than Pyemia. D. C. Peyton, Jeffersonville, Ind.
6 Hand Disinfection. C. P. Obendorf, New York.

1. **No Yellow Fever Without Mosquitoes.**—Carroll argues that the logical conclusion from the investigations which have been made would seem to be that the parasite of yellow fever belongs to the animal kingdom for the following reasons: 1. It is absolutely necessary for its continued existence that it pass alternately through man and the mosquito, and its parasitic existence in these hosts is obligatory. 2. The fact that a period of about two weeks must elapse before the contaminated mosquito is capable of infecting, points to a definite cycle of development in that insect. 3. The limitation of its development cycle to mosquitoes of a single genus and to a single vertebrate conforms to a natural zoologic law and does not agree with our present knowledge of the life history of bacteria. 4. The effects of climate and temperature on the stegomyia and on the rate of development of the yellow fever parasite within the body of the insect are exactly the same as the effects of the same conditions on the anopheles mosquito and the malarial parasite.

2. **Gonorrhea in Women.**—Findley says that the anatomic recognition of gonorrhea of the urogenital tract may be impossible, particularly in cases of long standing. For this reason the diagnosis must occasionally rest on the finding of an inflammatory lesion in one or more portions of the tract, and associating these lesions with a history of exposure to gonorrheal infection. A diagnosis that admits of no doubt can only be based on the finding of the gonococcus in the secretions or tissues. The small size of gonococci and their scarcity in the tissues in chronic cases may necessitate the microscopic examination of a large number of sections. Since the cure of gonorrhea is so unsatisfactory, and when deeply seated is usually only accomplished by a mutilating operation which too often unsexes the woman, prophylaxis becomes the paramount issue in the management of gonorrhea in women. Unfortunately, it is not alone the laity which is in need of education in this respect; the profession is often guilty of being too hasty in pronouncing a cure and in giving sanction to marriage or to the resumption of the marital relation. Untimely interference with uterine and urethral applications in the early stage of the disease too often causes an extension of the infection and makes a serious lesion of what might otherwise have been a self-limiting disease.

3. **Foreign Bodies in Bronchi.**—Claytor tabulates 50 cases not heretofore brought together. Among these 38 patients recovered and 12 died, a death rate of 24 per cent. Of 33 patients operated on 28 recovered and 5 died, while of 17 not operated on 10 recovered and 7 died.

4. **Actinomycosis Limited to Urinary Tract.**—Stanton records a case which was clinically one of cystitis and pyelonephritis, the actinomycotic character of the kidney lesions not being recognized during life or at the time of autopsy, but being discovered only on histologic examination of the kidney and bladder.

Medical Record, New York.

March 17.

7 The Border Line in Medicine and Surgery. E. G. Janeway, New York.
8 *Fever in Tertiary Syphilis. D. N. Carpenter, U. S. N.
9 *More Liberal Diet in Typhoid Fever. T. A. Claytor, Washington, D. C.
10 *Curability of Tuberculosis. H. P. Langhorst, Elmhurst, Ill.
11 *Conservative Treatment of Urethral Stricture. G. M. Muren, Brooklyn, N. Y.
12 Schwartze-Stacke Operation in Chronic Suppurative Otitis Media. J. J. Thomson, New York.
13 *Displacement of the Fallopian Tubes to Produce Sterility. A. E. Rockey, Portland, Ore.
14 Biographical Sketch of Michaelis, the Pioneer Worker on Nerve-Regeneration. L. P. Clark, New York.

8. **Fever in Tertiary Syphilis.**—Carpenter calls attention to the difficulty in the diagnosis of fever in tertiary syphilis. He illustrates this point by giving the histories of two cases recently observed, which show the necessity of administering mercury with caution. Both the patients whose histories are reported improved more rapidly when potassium iodid was used alone.

9. **Diet in Typhoid.**—Claytor's treatment of a case of typhoid fever, no matter on what day of the disease it may come under his care, is as follows: The regulation six ounces of milk are given every two hours, night and day, while the patient is awake. In place of milk, in order to vary the monotony for those who can take milk, and as a substitute for those who can not, animal broths are given. After the subsidence of the more acute symptoms the patient is asked if he is hungry, and if he applies in the affirmative a soft-boiled or poached egg is allowed, and if well borne the number is gradually increased to three or more a day. Jelly or blanc mange, custard, soft toast, the soft part of baked apple, and rice which has been boiled four hours, are the next additions. After this scraped beef or chop, very finely divided chicken, and baked potato are tried. Claytor does not advocate so full a diet in every case, for each patient must be carefully studied as an individual. He believes that most of the foods mentioned are quite as digestible, far more palatable, and rather less likely to cause perforation or hemorrhage by their local action, or gas production, than milk.

10. **Curability of Tuberculosis.**—Langhorst considers that the keynote of succes is an early diagnosis, tonics and rest. Proper therapeutic and hygienic modalities directed against the disease will so reinforce Nature as to make the conquest an easy one.

11. **Treatment of Urethral Stricture.**—Muren advocates the treatment of stricture by gradual dilatation. In men beyond middle age the anterior urethra should be thoroughly flushed before any instrumentation. The best lubricant for urethral instruments is made from Irish moss, and contains a small percentage of formalin. Muren has been more successful in filling the urethra with a number of straight instruments, successively attempting the passage of each, than in the use of instruments with variously twisted ends. He instructs his stricture patients with healthy bladders to hold the urine for a couple of hours before treatment. Voided immediately after dilatation it irrigates the urethra without discomfort.

13. **Displacement of the Fallopian Tubes to Produce Sterility.**—Rockey mentions instances in which he considers an abortion justifiable as a necessity in saving life, and others in which the possible occurrence of pregnancy would expose the patient to danger which it is most desirable to avoid. His technic is as follows: When the cornu of the uterus is brought into the field of incision, the tube is seized near its uterine end with a pair of forceps. The sharp point of a pair of scissors is thrust into the cornu, and the uterine end of the tube is cut out by a V-shaped incision with two cuts of the scissors. The wedge-shaped point of the excised end of the tube is caught with the forceps, drawn out a little between the partly closed blades of the scissors and cut off. The severed end of the tube will then slip into the peritoneal sheath and be completely covered by it. One catgut stitch is pased through this cuff, then through the fundus posterior to the inner end of the V-shaped incision from behind, forward, and tied, thus fastening the closed ends of the tube back of its original position. Two more stitches are passed around the tube and through the cornu to close the V, to control the bleeding, and to fasten the tube to the outside of the closed cornu.

New York Medical Journal.

March 17.

15 Surgical Intervention in Benign Gastric Lesions. A. J. McCosh, New York.
16 *Etiology of Acute Articular Rheumatism. R. I. Cole, Baltimore.
17 Causes and Cure of Cancer and Some Causes of Failure in Treating Malignant Growths by *X*-Rays and Electric Currents. R. Reyburn, Washington, D. C.
18 Teaching the Deaf Child to Hear. G. Hudson-Makuen, Philadelphia.
19 Radical Operation for Chronic Otitis Media Suppurativa. H. Smith, New York.
20 Early and Preventive Treatment of Acute Otitis Media. O. Wilkinson, Washington, D. C.
21 Aneurism of the Middle Ear, with Intact Drum Head. S. Spencer, St. Louis.
22 Serum Therapy. J. R. Bloss, Huntington, W. Va.
23 Massage in Dysmenorrhea, etc. G. Norstrom, New York.

16. **Acute Articular Rheumatism.**—Cole reports a case of polyarthritis of mild grade with marked effusion into only one joint, with streptococci cultivated from this joint, and rapid and complete recovery. Other cases are also reported to demonstrate that streptococci may induce a polyarthritis of very moderate grade. Cole thinks that there is one fact which seems to point to streptococci or some very closely related organisms as the cause of rheumatic fever. There are several diseases in which one attack predisposes to another; instead of immunity there follows heightened susceptibility. Among these diseases are erysipelas, tonsillitis, pneumonia and rheumatism. The very close relation of pneumococcus to streptococcus is now well recognized. While probably of no special value in arriving at a definite conclusion, this association of these four diseases is of interest.

Cole thinks that there are three possibilities: First, that acute articular rheumatism is a definite, specific, infectious disease, the cause of which we do not know, and that the cocci which have been isolated were secondary invaders. Second, that there is no such specific disease as acute articular rheumatism, but that the cases grouped under this term are those mild and moderately severe cases of general streptococcus infection in which the joints and heart are generally involved. Third, that acute articular rheumatism is due to a special form of streptococcus, which at present we have no accurate method of distinguishing from *Streptococcus pyogenes*, but which, owing to the specific character of the lesions induced in man, must possess special characteristics.

Boston Medical and Surgical Journal.

March 15.

24 Adenomyoma of the Uterus. W. P. Graves, Boston.
25 Bilateral Torsion of the Fallopian Tubes. M. Storer, Boston.
26 Open-Air Treatment of Tuberculosis. W. A. Griffin, Sharon, Mass.
27 Mixed-Fat Treatment of Tuberculosis. A. E. Rogers, Boston.

Lancet-Clinic, Cincinnati, Ohio.

March 10.

28 *Diagnosis and Present Status of Treatment of Congenital Dislocation of the Hip Joint. C. O. Thienhaus, Milwaukee.
29 *Retrospectus: A. D. 2061. G. Strohbach, Cincinnati.
30 Nasal Diphtheria. L. D. Brose, Evansville, Ind.
31 Case of Scorbutus, Recovering, and a Case of Gastroenteritis, Terminating Fatally. W. W. Bostwick, New York.

March 17.

32 Successful Extraction of Foreign Body in the Eye by Giant Magnet with Flexible and Adjustable Poles. J. Ranly, Cincinnati.
33 Gallstones. C. L. Bonifield, Cincinnati.
34 Female Specific Infection—Duty of the Family Physician. J. T. Reddick, Paducah, Ky.
35 Plea for More Moral Restraint for Students in Medical Colleges. J. M. Batten, Dowington, Pa.

28. **Congenital Dislocation of the Hip Joint.**—Thienhaus claims that congenital dislocation of the hip joint is as present perfectly curable in from 60 to 80 per cent. of all cases treated within the time limit by so-called bloodless or bloody methods. The best time for treatment is from the second to the fifth year. Patients over 8 years of age should only be subjected to a trial of reduction when examination has shown that the shortening of muscles, blood vessels and nerves is not so extensive as to make serious injuries inevitable, and that malposition exists between the head of the femur and the acetabulum. The bloodless methods of reduction should be tried first, and only after two or three attempts have been made without success or with bad functional results should the bloody methods be resorted to.

29. **Retrospectus: A. D. 2061.**—Strohbach's paper is an essay on sanitation, with comparisons of conditions existing in the beginning of the twentieth century with those existing in the year 2061. At that time medical colleges are owned and controlled by the government. State examining boards have been abolished. The President's cabinet numbers among its members a secretary of health who is not a physician, but a man who has studied sanitation and is conversant with the subject and its needs. He is responsible to the President. At the head of the army and responsible to the secretary is the chief sanitarian, a man who has risen from the ranks of the army, receiving promotion only by competititve examination and meritorious service. Uniformity reigns everywhere. Utopia has arrived. There is nothing left to be wished for.

St. Louis Medical Review.

March 10.

36 *Significance of Leucocytosis in Surgery. M. B. Clopton, St. Louis.
37 *Beriberi; an Address at the Harvard Medical School. R. Takaki, I. J. N.

March 17.

38 Summary of the More Recent Work on Variola. R. L. Thompson, St. Louis.
39 The Mother-in-Law; a Medico-Ethnologic Sketch. F. J. Taussig, St. Louis.

36. **Leucocytosis in Surgery.**—Clopton believes that the significance of leucocytosis in surgery, particularly in abdominal surgery, is not sufficiently appreciated. He says that if the leucocytes are counted frequently and the count weighed carefully as only one symptom of many, it may be of great value, but that a single count is not valuable for any serious decision. In patients requiring operation the objection to this measure is that several counts may be necessary for a decisive result and that this may delay intervention too long.

37. **Address.**—Takaki discusses beriberi and the Japanese medical schools.

Surgery, Gynecology and Obstetrics, Chicago.

February.

40 Adenoma of the Thyroid Gland; a Clinical and Pathologic Study. J. C. Bloodgood, Baltimore.
41 Procedure for Retrodisplacements of the Uterus. T. Tuffier, Paris.
42 *Has Experience Sustained the More Radical Operation for Cancer of the Uterus? J. G. Clark, Philadelphia.
43 The Gonococcus in the Puerperium. W. S. Stone and E. McDonald, New York.
44 Three Years' Experience with Pyloroplasty. J. M. T. Finney.
45 Foreign Bodies in the Esophagus. S. McGuire, Richmond, Va.
46 Scopolamin-Morphin-Ethyl Chlorid-Ether Anesthesia. H. A. Royster, Raleigh, N. C.
47 Gonorrheal Exostosis of the Os Calcis. W. S. Baer, Baltimore.
48 *Two Cases of Aneurism. F. W. Parham, New Orleans.
49 Starvation and Locking the Bowels for from Ten Days to Two Weeks. H. A. Kelly, Baltimore.
50 Postoperative Cystitis in Women; Its Cause and Prevention. F. J. Taussig, St. Louis.

42.—See abstract in THE JOURNAL, March 17, 1906, page 833.

48. **Aneurisms.**—Parham reports two cases, one a case of popliteal aneurism treated by intra-aneurismal suture of the vessel orifices according to the method of Matas, and the other an aneurism involving the second and third portions of the left subclavian artery, beginning just behind the scalenus muscle and extending to the point of disappearance of the artery under the clavicle. The inner three-fourths of the clavicle were resected. The first portion of the artery just inside the scalenus muscle was ligated and the sac was incised. This was followed by severe hemorrhage which was finally controlled by suture of the proximal opening within the sac and distal ligation of the subclavian artery. Parham states that the operative indications for this procedure are: 1. The practicability of laying open and inspecting the interior of the sac. 2. The possibility of applying a constrictor, clamp or temporary ligature to the proximal side of the tumor. In the second case reported the suture was employed because proximal ligature failed to stop the bleeding completely. The operation of suture within the sac is to be preferred to ligature, because: 1. Every possible bit of artery is saved, except that actually forming the sac of the aneurism. 2. Suture accomplishes simple approximation of the intima, and does not cut

through, as may happen with ligature of an atheromatous artery. 3. All collateral bleeding in the sac is stopped by direct suture of these vessel mouths within the sac, and packing the sac becomes unnecessary. 4. There is no disruption of the outside vascular (collateral) connections of the sac wall already much relieved by the emptying of the sac.

The reconstruction of the artery, he says, is to be attempted only in certain cases, as in aortic aneurism, where suture of the proximal opening would, like ligature, probably be fatal, and in other aneurisms, where, from swelling due to lymphangitis, etc., the danger of gangrene is too great to risk any interference with the nutrient stream. In such cases, and especially in the latter, the reconstruction of the artery is to be preferred, for two reasons: 1, Because even a temporary continuance of the main stream will be a great advantage until the subsidence of edema consequent on the evacuation of the sac shall have somewhat relieved the stress on the collateral vessels, and 2, because it is feasible at the secondary operation again to open the sac and to close the arterial openings. In some abdominal aneurisms, hopeless by other means of treatment, Matas' method offers some hope of cure.

The Laryngoscope, St. Louis, Mo.

January.

51 Surgical Treatment of Otitic Facial Paralysis. G. Gradenigo Turin, Italy.
52 *Direct Method of Correcting Lateral Deformity of the Nasal Bones. H. P. Mosher, Boston.
53 New Instruments for Submucous Resection of the Septum. J. C. Beck, Chicago.
54 Forceps and Knife for Use in the Submucous Septal Operation. J. McCoy, New York.
55 Postoperative Hemorrhage Following the Removal of the Pharyngeal Tonsil. H. Dupuy, New Orleans.
56 *Vicarious Bleeding from the External Auditory Canal. G. E. Shambaugh, Chicago.
57 Treatment of Acute Otitis Media in General Practice by a General Practitioner. L. Wainwright, Folkestone, England.
58 Acute Bilateral Middle Ear Suppuration, Following an Intranasal Operation, and Resulting in Death from Pyemia. O. J. Stein, Chicago.
59 Hypertrophic Laryngeal Tuberculosis. J. E. Rhodes, Chicago.
60 *Tonsillar Tissue, Should It Be Removed in All Cases? Why? G. W. Spohn, Elkhart, Ind.
61 *An Auricle Cap. A. G. Bryant, Boston.
62 A Nasal Polypus Hook. Id.

52. **Correcting Lateral Deformity of the Nasal Bones.**—Mosher describes his method as follows: An incision an eighth of an inch long is made in the skin over the lower outer angle of the nasal bone. A chisel to fit the incision is placed in it and then driven through the bone with a mallet. The chisel is then pushed up, carrying the skin before it, and again driven through the outer border of the nasal bone. When this has been done three or four times the top of the nasal bone is reached. The chisel is then turned horizontally so that it is parallel with the teeth and at right angles with the incision through the outer border of the nasal bone, and is driven inward through the root of the nasal bone. The operator is able to accomplish this extensive chiseling of the bone through the one small skin incision because the skin over the nasal bone, as one can readily test on himself, is displaced upward very readily. It can be displaced downward but little. The same procedure is repeated on the other nasal bone. The horizontal incision through the root of the nasal bones should be especially thorough, otherwise the bones will not be freed sufficiently to give good results.

When the nasal bones are sufficiently cut through they are forced into the middle line by a pair of septum forceps or by the fingers. If they do not start readily the mallet may be used. When the nasal bones have been replaced in the middle line it will be found in a majority of cases that the ascending process of the superior maxilla on the side toward which the bones originally deviated is so prominent that it will cause a marked deformity if it is left in its present condition. The deformity which this causes is easily remedied by replacing the chisel in the skin incision, forcing the skin outward as far as is necessary, and then cutting off the projecting part of the ascending process with one or two cuts of the chisel. Occasionally the ascending process on the other side may require the same treatment.

56. **Vicarious Bleeding from External Ear.**—Shambaugh reports the case of a woman, aged 25, who had bleeding from the right ear for five years without having had any previous ear trouble. The bleeding would continue for fully half an hour, and always relieved a feeling of flushing of the head which invariably preceded the attack. The bleeding from the ear did not occur every month, but often skipped one and sometimes two months. When the bleeding from the ear did occur she always noticed that the regular flow was correspondingly diminished, and not infrequently the bleeding from the ear would take the place completely of the menstrual flow. The amount of blood discharged from the ear varied from one-half gram to one-half ounce, and occurred at intervals lasting over several days. The bleeding point was the tip of a smooth swelling on the upper wall just inside the meatus. Shambaugh touched the bleeding point with crystals of chromic acid. The bleeding stopped and since that time there have been but few occasions when a slight bleeding from the ear has taken place.

60.—See abstract in THE JOURNAL, Sept. 30, 1905, page 1023.

61. **An Auricle Cap.**—The cap devised by Bryant is made of thin rubber and serves as an aseptic pad for the support of the physician's finger in examinations and operations on the ear. A small perforation in the cap opposite the external auditory canal permits a speculum to be inserted in the canal. The cap has a cape extending in all directions around the ear. The caps are made for the right and left ear in two sizes and are adaptable.

Journal of the Minnesota State Medical Association and the Northwestern Lancet, Minneapolis.

March 1.

63 Care of the Tuberculous. H. M. Bracken, St. Paul.
64 Sanatorial Care of Tuberculosis. H. L. Taylor, St. Paul.
65 *The Prescribing Physician and His Materia Medica. W. S. Fullerton, St. Paul.
66 Various Laboratory Methods Employed in Vienna Clinics. W. F. Braasch, Minneapolis.
67 Cerebral Tumor. W. J. McCarthy, Madelia, Minn.
68 Cystic Tumors of the Iris. W. F. Carver, Ft. Dodge, Iowa.

65. **The Physician and His Materia Medica.**—A personal investigation by Fullerton of six representative drug stores disclosed the fact that over 20 per cent. of the current prescriptions on file are for proprietary medicines of unknown composition. This means, says Fullerton, that one out of five of St. Paul's prescribing physicians is an unsalaried employé of the proprietary medicine industry, actively engaged in distributing its products. Physicians have been the means, in the past as in the present, of making certain widely prescribed proprietaries counter commodities, sold directly to the public through their indorsements. It is not long before the patient catches on to the fact that he can get the same tonic the physician prescribes by calling for a bottle of the prescribed proprietary, just as he would for any other "patent medicine." Fullerton says that it would almost seem that with their other failings physicians are guilty of disloyalty to their home city and their local pharmacists and would rather help build "patent-medicine" blocks in foreign towns than see local druggists make the reasonable profits which are their rights.

The remedy for this condition is very simple, he declares, and is in the hands of physicians—let them stop prescribing proprietaries. The basis of this reform must be a more intimate knowledge of materia medica and a better understanding of drugs and their actions. More time should be given in colleges to the teaching of this branch of medicine and to the art of prescription writing. The ethical side of the proprietary-medicine evil should be discussed in the lecture room. The recent graduate comes on the stage well equipped as a pathologist and bacteriologist; he is a good anatomist and a passable diagnostician. He has imbibed the idea that a correct diagnosis is the all important aim of his examination in a given case. Treatment, outside of surgical measures, he is apt to look on as a secondary matter. He devotes time and the most exacting pains to the blood count, the bacteriologic examinations, urinalysis, etc., at too great a disregard possibly of the coarser clinical picture, forgetting that the patient is more interested in relief from his suffering than in a refined diagnosis; and when it comes to medicinal treatment not one in ten knows the value of drugs nor how to write a prescription, because he has not been taught. He is left to get this

knowledge as best he may, and a large part of it he obtains from the advertising literature of the proprietary-medicine manufacturer.

Medicine, Detroit, Mich.

March.

69 *Changes in the Retina and Retinal Vessels as an Indication of Lesions in Heart and Blood Vessels. T. A. Woodruff, Chicago.
70 Erotic Symbolism. H. Ellis, Cornwall, England.
71 Chemic and Microscopic Study of Urine During Life Followed by Histologic Examination of the Kidneys of the Same Patients. J. Funke, Philadelphia.
72 Typhoid Fever and Its Treatment. L. F. Bishop, New York.
73 Autointoxication; Its Factors, Results and Treatment. H. C. B. Alexander, Chicago.
74 Nephritis; Etiology. A. A. Eshner, Philadelphia.

69. **Retina and Circulatory System.**—Woodruff states that with the ophthalmoscope many a commencing general vascular degeneration can be detected in its incipiency by noting the alterations in the retina and in the retinal circulation. A man apparently in good health, exhibiting no symptoms of disease apart from a slight defect in vision, may be the subject of vascular changes of the most serious character. Woodruff advises that the internist familiarize himself with the use of the ophthalmoscope and the normal appearance of the background of the eye. Negative evidence is often quite as valuable as positive. When no signs of capillary alterations are to be found in the retinal arteries, nor changes in the retina itself, the probability is that there are no advancing changes going on in the vessels elsewhere. When structural changes in the retina are found it is positive evidence that these are only a part of a fibrosis more or less extensive in the arteries and capillaries throughout the whole system. The retinal vessels possess no anastomoses but are terminal vessels, and for this reason the region which depends for its nutrition on these vessels is liable to show alterations in structure that are a reflection of widespread vascular degeneration.

St. Paul Medical Journal.

March.

75 *Correct Treatment of Syphilitic Cicatricial Adhesion Between the Soft Palate and Posterior Wall of the Pharynx. J. E. Schadle, St. Paul.
76 Buttermilk as an Infant Food. W. R. Ramsay, St. Paul.
77 The Dutch Clinic (1636-1738). E. Klaveness, Brookings, S. D.
78 Neglected Means for the Prevention of Disease. A. W. Dunning, St. Paul.

75. **Treatment of Syphilitic Cicatrices in the Mouth.**—The plan of treatment described by Schadle consists of the construction of a suitable device to be worn continuously by the patient with a view to keep apart permanently the opposing surfaces of the velum palati and the postpharyngeal wall. The apparatus, preferably made of vulcanite, ought not to be introduced in recent cases until the acute symptoms of inflammation and tissue necrosis have subsided under appropriate local and constitutional treatment. In old chronic cases in which either partial or total adhesions exist and no inflammation or ulceration is present, the device should be employed immediately after complete detachment of the adherent soft palate. The device is composed of an obturator and a palatine plate which is designed to hold the obturator firmly in place by means of metallic dentary clasps. The intermediary operation and the details for making the obturator are described in detail.

Texas State Journal of Medicine, Fort Worth.

March.

79 The Church and Hygiene. A. G. Lyle, San Francisco.
80 *Pernicious Malarial Fever. W. L. Crosthwait, Holland, Texas.
81 First Aids to Injured Eyes. J. H. Burleson, San Antonio.
82 *Simple and Efficient Cure for Nasal Catarrh. J. W. Torbett, Marlin.
83 Treatment of Malignancies by the *X*-Ray. E. M. Rabb, San Antonio.
84 Relation of the Medical Profession to the Public. D. R. Fly, Amarillo, Texas.
85 Treatment of Rheumatism. J. W. Corey, Whitesboro.
86 Conditions Existing Between Physician and Druggist. J. M. Martin, Hillsboro.

80. **Pernicious Malarial Fever.**—Crosthwait reports four cases of pernicious malarial fever, one an example of the comatose form, a second illustrating the algid variety, and two cases of hemorrhage. In one of the hemorrhagic cases there appeared during the course of an attack of remittent malarial fever a most alarming case of hemorrhea, profuse nose bleeding, hemoptysis, hemorrhages from the buccal membrane and from the bowels. The hemorrhages were controlled, but reappeared promptly on the administration of quinin. The second case of hemorrhage was one of quinin hemoglobinuria. The patient died, not from the effects of the hemoglobinuria *per se*, but from the complex result of quinin poisoning and uremia.

82. **Cure for Nasal Catarrh.**—Torbett calls his treatment divergent hydriatic gymnastics or massage. He devised the method for the purpose of training the capillary circulation to maintain an equilibrium in the mucous membrane and skin to resist the effects of sudden change in the temperature. A dairy thermometer, a glass nasal douche and two glasses are needed. To one glass of warm water, at a temperature of 98 F., one-half teaspoonful of bicarbonate of soda is added. To the second glass of water, at a temperature of 96 F., the same amount of sodium chlorid is added. The patient is shown how to use the douche with the soda solution in the mouth, also as a gargle and over the face, to be followed immediately by the colder salt solution. This should be used at least once daily for from three to six days, when the soda solution should be raised one degree and the salt solution lowered one degree until the soda solution is from 115 to 120 F., while the salt solution is down to 75 or 80 F. The face, neck and arms should be bathed with cold water every morning, and the entire body given divergent temperature baths at least once a week. The ordinary precautions as to diet and personal hygiene must also be observed.

Wisconsin Medical Journal, Milwaukee.

February.

87 *Points Learned from Experience with Appendicitis. F. E. Walbridge, Milwaukee.
88 Blood Examination as an Aid to Diagnosis. M. Dvorak, La Crosse.
89 *Relation of Chronic Appendiceal Disease to Neurasthenic Conditions. L. H. Prince, Palmyra.
90 Evils and Abuses of So-called Lodge Practice. P. J. Calvy, North Fond du Lac.
91 Pneumonia. P. L. Scanlan, Prairie du Chien.

87. **Experience with Appendicitis.**—Walbridge states that it is impossible to predict, with any degree of certainty, the outcome of an acute attack of appendicitis in any stage of the disease, no matter how mild the symptoms. He treats every acute appendicitis as an emergency case and operates at once, night or day, if the opportunity is offered early.

89. **Chronic Appendicitis and Neurasthenic Conditions.**—Prince is fully convinced that chronic appendiceal disease is responsible for a not inconsiderable percentage of cases of so-called neurasthenia, ranging from ordinary crankiness through nervous prostration and hysteria to actual insanity. Three cases are reported illustrating a number of factors bearing on this subject.

Archives of Ophthalmology, New York.

January.

92 Eyeball Injuries by Iron Foreign Bodies. (To Be continued.) Salt Solution. L. Alexander, Nuremberg.
93 *Injuries to the Eye Following Subconjunctival Injection of Salt Solution. L. Alexander, Nuremberg.
94 Are the Anomalous Trichromates Fit for Service on Railroads? H. Feilchenfeld, Berlin.
95 Hemolytic Injections for Recurrent Hemorrhages into the Vitreous. Elschnig, Vienna.
96 Congenital Orbital Cyst Associated with Microphthalmus. R. Conner, Detroit, Mich.
97 Plaster Operation on the Eyelids by Means of Skin Flaps Taken from the Neck. E. F. Snydacker, Chicago.

93. **Eye Injuries Following Subconjunctival Injections.**—Alexander reports three cases which show that the subconjunctival injection of 5 and 10 per cent. salt solution may be followed by injuries to the eye. The injuries noted in these three cases were adhesions between the bulbar conjunctiva and sclera, partial gangrene of the conjunctiva and transient changes in the cornea and lens.

Illinois Medical Journal, Springfield.

February.

98 *The Medical Library. C. E. Black, Jacksonville.
99 Anglo-Endothelioma of the Middle Ear. J. C. Beck, Chicago.
100 Present Status of Otology. J. Holinger, Chicago.
101 Congenital Clubfoot. J. Ridlon and C. F. Eikenbary, Chicago.
102 *Four Cases of Prostatic Obstruction. W. T. Belfield, Chicago.

98. **Medical Library.**—In this paper Black discusses the function and scope of a medical library owned and controlled by a county medical society; the relation of the medical library to the community at large; the growth of the library and how it can be made an active agency for good in the daily work of the physician.

102. **Prostatic Obstruction.**—Belfield reports four cases. The first patient suffered from sclerosis of the gland, which was treated by channeling a canal through the fibrous vesical orifice by means of the galvanic cautery introduced through a median perineal urethrotomy. The second patient had a hypertrophy of the prostate. A large middle lobe and two lateral outgrowths were removed by the same median perineal urethrotomy performed for galvano-prostatotomy in the first case. The third patient, the victim of carcinoma, was treated in a manner different from the usual custom followed in these cases. A simple puncture was made with a small trocar and canula and a small soft catheter was then introduced through the canula, which was withdrawn, leaving the catheter to drain the bladder. After three or four days the catheter was removed, cleansed and reintroduced through the fistulous tract. Thereafter the catheter is removed and cleansed daily and the bladder washed out by the patient himself. Belfield advises inspecting the vesical interior to determine the presence of calculi. If the cystoscope can not be introduced through the prostatic urethra, a straight cystoscope can be introduced through the suprapubic canula at the time the puncture is made.

The fourth patient illustrates two of the common evils of perineal prostatectomy, viz., a permanent perineal fistula and permanent incontinence of urine. Belfield says that this operation, the removal of the prostate through its posterior surface, should be generally abandoned. He mentions three operations for the removal of prostatic obstruction: 1, galvano-prostatotomy for channeling a fibrous prostate; 2, enucleation of adenomatous masses from the mucous surface either (a) through a median perineal urethrotomy or (b) through a suprapubic incision, the former when the growths can be reached from the perineum, otherwise the latter. The suprapubic incision is best made in two stages—the first incision extending to, but not through, the bladder; four or five days later the second incision—through the bladder—is made, and the prostatic masses are enucleated. In this way the chief danger of the suprapubic operation—septic infection of the suprapubic tissues—is minimized.

Journal of the Michigan State Medical Society, Detroit.

March.

103 Immunity in Theory, Experiment and Practice. L. Hektoen, Chicago.
104 *Vaginal and Uterine Prolapse. J. H. Carstens, Detroit.
105 Epilepsy. W. A. Polglase, Lapeer.
106 Spirochæta Pallida. E. H. Hayward, Detroit.
107 Present Methods in the Treatment of Pulmonary Tuberculosis. F. A. Johnson, Greenville.

104. **Vaginal and Uterine Prolapse.**—According to Carstens, prolapse is rare in nulliparæ. If due to subinvolution and seen early it can often be relieved by supports, with local and constitutional treatment. If due to lacerations, these can be repaired by plastic operations, but the mucous membrane must be preserved in women of child-bearing age. If there is pelvic trouble these operations must be amplified by abdominal sections. Carstens believes that an Alexander operation is indicated only in very rare cases, but when the abdomen must be opened on account of other conditions it is best to make one of these intra-abdominal shortenings of the round ligaments or some kind of ventral suspension. In older patients, those past the menopause, a plastic operation is of no avail. A vaginal hysterectomy will be less dangerous and gives better relief than an abdominal suspension.

The Postgraduate, New York.

March.

108 Recurrent Mastoiditis; Its Cause and Prevention. J. F. McKernon, New York.
109 *What is Kraurosis Vulvæ? A. Brothers, New York.
110 Treatment of Syphilis with Intramuscular Injections of a New Preparation of Mercury Biniodid. P. D. Littlejohn, New Haven, Conn.
111 Vulvovaginitis in Children. H. B. Sheffield, New York.
112 Unilateral and Conservative Operations on the Adnexa and Their Possible Sequelæ. S. W. Bandler, New York.
113 Apparent Cure of Two Cases of Pulmonary Tuberculosis Treated in the Annex of the Post-Graduate Hospital. W. J. Mersereau.

109. **Kraurosis Vulvae.**—Brothers feels that he can not regard kraurosis vulvæ as a disease independent of chronic pruritus vulvæ. The clinical history of both affections is so suspiciously alike that he feels justified in declining to regard kraurosis vulvæ as an established independent entity.

California State Journal of Medicine, San Francisco.

March.

114 Differentiation of the (So-called) Seborrheic Conditions of the Scalp. E. D. Chipman, San Francisco.
115 *New Etiology and Treatment of Chronic Bronchitis. A. W. Perry. San Francisco.
116 Indications and Contra-indications for Intra-Laryngeal Operation in Tuberculosis of the Larynx. C. F. Welty, San Francisco.
117 Partial Reduction in Dislocations of the Shoulder. R. Russ, San Francisco.
118 Spirochæta Pallida (Treponema Pallida). L. S. Schmitt, San Francisco.
119 Gastric and Duodenal Ulcers. J. H. O'Connor, San Francisco.
120 Contamination of Water Supplies. N. K. Foster, Sacramento.

115. **Etiology and Treatment of Chronic Bronchitis.**—Perry attributes this form of bronchitis to a local edema of the bronchial mucous membranes. His treatment consists of the restriction of liquids to a proper proportion with the liquids excreted. The principle is to diminish the water in the body in the hope that any local accumulation in excess will also decrease. The chlorid of sodium in the food must be greatly reduced. Perry has treated twenty cases in the last three years according to this method, with good results. The treatment is best suited to patients with a rather abundant whitish viscid mucus, which is expectorated with difficulty, and who have some dyspnea and uneasy rest at night, with a cough.

Medical Fortnightly, St. Louis.

February 26.

121 Treatment of Fractures in General. E. A. Weimer, Pekin, Ill.
122 President's Address, Delivered Before the Medical Society of City Hospital Alumni. L. H. Behrens, St. Louis, Mo.
123 Sociologic Treatise on Biogenesis and Forces of Life. R. C. Bankston, Birmingham, Ala.

Medical Sentinel, Portland, Ore.

February.

124 Modern Technic in Prostatectomy. D. H. Rand, Portland.
125 Diagnosis and Localization of Brain Tumor. W. House, Portland.
126 Pre-Tuberculous Signs and Symptoms. J. N. Alley, Lapwai, Idaho.

Western Medical Review, Lincoln, Neb.

February.

127 Retrospect of Thirty-Three Years of Active Practice. W. F. Conwell, Neligh, Neb.
128 Proctitis and Sigmoiditis. R. D. Mason, Omaha.
129 Acute Articular Rheumatism and Acute Arthritis Deformans: Their Differential Diagnosis. C. W. Hargens, Hot Springs, S. D.
130 Comitant Convergent Strabismus. H. B. Lemere, Omaha.
131 Glanders. D. W. Beattie, Neligh.
132 Injuries of the Head. R. H. Rhoden, Fremont, Neb.

Medical Herald, St. Joseph, Mo.

February.

133 Prevention of Deformity. J. P. Lord, Omaha, Neb.
134 Is there a Rational Basis for a Scientific Therapy? W. F. Waugh, Chicago
135 Etiology of Syphilis: with a Few Practical Points on Tertiary Cases of Several Years Standing. T. N. Bogart, Excelsior Springs, Mo.
136 Constipation. W. J. McGill, St. Joseph.
137 Prophylaxis and Sequelæ of Venereal Diseases. C. G. Geiger, St. Joseph.
138 Need of Sexual Education. C. W. Fassett, St. Joseph.

Southern California Practitioner, Los Angeles.

February.

139 Enteroptosis in Women. L. G. Visscher, Los Angeles.
140 Why We Should Make Thorough Examinations of the Digestive System. B. Reed, Philadelphia.
141 Neurology and Psychiatry in 1905. R. Moore, Los Angeles.

Brooklyn Medical Journal.

February.

142 Intractable Menorrhagias of Arteriosclerosis of the Uterus. R. L. Dickinson, Brooklyn.
143 Medical Problems to be Solved by the Practitioner. L. C. Ager, Brooklyn.
144 Honors that Have Come to the Medical Profession in America. W. Schroeder, Brooklyn.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal.

March 3.

1 *Recent Surgical Methods in the Treatment of Certain Forms of Paralysis. A. H. Tubby.
2 A Case of Myxedema. T. Fraser.
3 *The Borderland of Insanity. G. H. Savage.
4 Treatment of Neurasthenia. G. Rankin.
5 Neurasthenia, Degeneracy and Mobile Organs. P. C. Smith.
6 *Pathology of Epilepsy. J. Turner.

1. **Surgical Treatment of Paralysis.**—The types of cases discussed by Tubby are those arising from anterior poliomyelitis, spastic paralysis, ischemic paralysis and some traumatic lesions of the nerves. The modern methods of treatment discussed are tendon and muscle transplantation, arthrodesis and nerve anastomosis. Among the cases reported by Tubby are the following: Grafting the extensor proprius pollicis into the tibialis anticus, and part of the extensor longus digitorum into the internal cuneiform bone for paralytic equino-valgus associated with paralysis of the tibialis anticus; partial paralysis of the extensor cruris; insertion of the ilieo-tibial band into the patella, which was followed by complete recovery of the power of extension of the leg; grafting the distal facial trunk for traumatic facial paralysis into the hypoglossal.

3. **Borderland of Insanity.**—Savage shows that there are persons who are nervously or mentally disordered, but who are not to be considered or treated as lunatics. He pleads for a much greater freedom for the treatment of the insane who are not dangerous to themselves or to society by physicians in general practice, and urges the utility of having some system of notifications as well as of certification. For some patients greater control is needed, while in others much more freedom and a natural return to a simpler life is to be preached—a real consistent simple life, with plainer food and more regular occupation.

6. **Pathology of Epilepsy.**—Taken together, that is, the correlation of the defectively developed and probably unstable nerve cells, with the local status of the blood stream resulting from intravascular clotting, Turner submits are the conditions which constitute the pathologic basis of an epileptic fit. On the part of the nerve cells the most important changes are: (a) A form indicative of imperfect development; (b) retention of subcortical nerve cells, also an indication of imperfect development; (c) either an acute form of cell change, similar to that produced by ligature of the cerebral arteries in a dog, or (d) groups of darkly stained, shrunken cells, representing a more chronic change, and very likely, at all events in some cases, the sequel of that just described. On the part of the vascular system: (e) Large numbers of blood plates in the blood; (f) different forms of intravascular clotting, probably in large measure derived from amalgamation of the blood plates, but to some extent also probably due to destruction of red blood corpuscles; (g) small cortical hemorrhages, which in some cases can be traced to rupture of a vessel blocked up by the aforementioned clot.

The Lancet, London.

March 3.

7 Epidemic Disease in England—The Evidence of Variability and of Persistency of Type. W. H. Hamer.
8 *Gastric Surgery. H. J. Paterson.
9 Two Cases of Bullet Wound of the Brain. R. L. Knaggs.
10 Diagnosis and Treatment of Tuberculous Pleurisy. S. Martin.
11 *New Method for the Production of Ultra-Violet Rays and Other Rays by Low-Tension High-Frequency Currents. J. C. Bowie.
12 Points in the Prognosis and Treatment of Croupous Pneumonia. C. H. Cattle.
13 *Psychology of the Tuberculous. A. S. Gubb.

8. **Gastric Surgery.**—In this paper Paterson discusses perforation of a gastric ulcer, infantile hypertrophic stenosis of the pylorus and its treatment, the surgical treatment of cancer of the stomach, and the results, immediate and remote, of gastrectomy.

11. **Production of Ultra-Violet Rays.**—In order to overcome some of the objections to the present method of producing ultra-violet rays, Bowie employs various tubes and apparatus of glass and other materials. Of glass tubes he found one 9 inches long by 3 in diameter, gradually tapering toward one extremity, very suitable for general purposes. The end is fitted with a metallic cap, to which is fitted the terminal, and passing inward to a distance of one-third of the tube is the electrode, to end in the internal cathode (also anti-cathode). The latter is a disc of iron, and although other metals may be employed he has obtained the best results by using iron. In this form the body of the tube is encased in a metallic cylinder—the external anti-cathode (also cathode) which likewise carries its terminal. Interposed between the cylinder and tube is a porous material which can be kept cool for the purpose of absorbing any heat. On account of the small amount of heat rays present the free end of the tube may be fitted with a lens or lenses for concentrating the rays. The vacuum tube is connected with the secondary helix of the machine and can be approximated by a screw to the primary helix.

The working of the tube is as follows: Previous to turning on the current the secondary helix is placed at its furthest point from the primary and the condenser of the machine is raised so that the machine is working at its lowest capacity. The current is turned on and the tube glows. So sensitive is the tube that when *in situ*, and placed 12 feet from another machine which is working, the tube glows by induction. To obtain the greatest volume of ultra-violet rays the secondary helix is gradually approached towards the primary one, while the condenser is lowered to its greatest depth or capacity. The tube glows with great intensity and silently. From the internal cathode (also anti-cathode) is seen a corona of luminous points, while more distant from the corona it assumes a pale violet or whitish-blue color which occupies the whole tube. These are the ordinary cathode and anti-cathode rays of Lenard. Directly through the glass of the free end of the tube emerge the invisible ultra-violet rays. This radiation answers to all the known tests for ultra-violet rays. The tube when in use can be held in the hand or adjusted to a stand. When the tube is worked with high tension, it also takes the place of a rectifier and can be handled with safety. This is of considerable importance when the ordinary *x*-rays are wanted, although it has to be noted that much better results can be obtained by the employment of low tension.

13. **Psychology of the Tuberculous.**—Gubb states that there are presumably two principles of morbid process at work in determining the psychical changes which take place in the tuberculous, and they require to be distinguished from each other, though clinically it can not always be possible to establish the distinction in the absence of the anatomic proof. These are (1) changes of mental temperament presumably due to the action on the nervous system of the toxins elaborated by the tubercle bacillus; and (2) modifications of character due to mechanical interference with the cerebral functions secondary to the deposit of tubercle within or on the brain. The characteristic feature of the general psychology of the tuberculous is instability, feverish activity followed by periods of intense depression, phases of despair giving place to the elaboration of plans for a distant future, fits of hypochondria, relief from which is sought in intense application to work, a reckless indulgence in sensual pleasures and exaggerated idealism with a tendency to sentimentality and generalization. During the stage of invasion a certain tendency to refinement is noticeable, both physical and mental, and under its influence the artistic and imaginative faculties are often stimulated to unprecedented feats, doomed but too often to failure by abrupt collapse of physical energy.

The tendency to take a sanguine view of things becomes more marked as the disease advances. When a patient first learns that his lungs are affected he usually displays great anxiety and is depressed. The mental depression, however, gradually subsides until at the terminal period, in spite of overwhelming evidence that his days are numbered, the victim obstinately makes plans or initiates enterprises incapable of achievement in the brief space of life that remains. Patients

are buoyed up by a hope that knows no contradiction and display impatience or even anger when attempts are made to get them to realize the seriousness of their plight.

The Practitioner, London.

March.

14 *Reducible Inguinal Hernia in Boyhood. E. Owen.
15 Cerebral Manifestations of Hypertonus in Sclerosed Arteries. W. Russell.
16 Current Theories Regarding the Causation of Arteriosclerosis. J. M. Cowan.
17 Unsuspected Tuberculous Peritonitis. R. Johnson.
18 Valvular Disease of the Heart. R. Crawfurd.
19 *Gout and Its Causation. I. W. Hall.
20 Rheumatoid Arthritis. A. E. Garrod.

14. **Inguinal Hernia in Boyhood.**—The operation performed by Owen is a good deal like that of Mitchell-Banks, except that Owen passes the sutures deeply through Poupart's ligament and the muscular inner wall of the inguinal canal so as to bring them and keep them in permanent contact. The stitches cause the deposit of a large amount of plastic exudation, which in due course becomes fibrous tissue and makes a splendid barrier.

19. **Etiology of Gout.**—Hall reviews the causes of gout, but does not offer any new theories.

Revue de Chirurgie, Paris.

Last indexed, page 758.

21 (XXV, No. 11.) Report of 18th French Congress of Surgery, 1905.
22 *Lésions du squelette chez un castrat naturel. F. Gross and L. Sencert.
23 *To Crush Stones in Common Bile Duct.—Broiement des calculs du cholédoque. L. Ombrédanne.
24 *Appendicite et fièvre typhoide (appendicite para-typhoide de Dieulafoy). D. Perrone.
25 (No. 12.) Technique chirurgicale simple et aseptique. D. P. Allen.
26 Les kystes branchiaux du cou à structure amygdalienne (branchial cysts). F. Terrier and P. Lecene.
27 *De l'ostéopsathyrosis. A. Broca and Herbinet.
28 Blepharoplastique, par la méthode italienne modifiée. F. LaGrange.

22. **The Skeleton in Case of Undescended Testicles.**—The patient in question is a man of 56 with empty, rudimentary scrotum. A testicle no larger than a grain of corn can be palpated in the right inguinal canal. A careful radiographic study was made of the different bones of this natural eunuch, revealing the persistence of the epiphysial cartilages. The shadow cast by the bones was like that of a child. The great trochanter had been fractured at one time, probably from defective ossification of the epiphysial cartilage. The long bones are longer than correspond to the height, and other special features of the skeleton corroborate the assumptions of Ancel and Bouin in regard to the results of defective functioning of the interstitial gland of the testicle. (Their study of what they call "diastematic insufficiency" was summarized recently in these columns on page 690.)

23. **Crushing Stones in Bile Duct.**—Ombrédanne has been studying the 53 cases on record in which a gallstone in the common bile duct was crushed *in situ*. In 10 of the cases the attempted lithotripsy proved impracticable. Ombrédanne has performed the operation successfully once and reports another unpublished case. In 5 other cases on record the stone was punctured to facilitate its removal, but with success in only 2. Experience shows that, as a rule, the forceps fail when the stones cannot be crushed with the fingers; the hardness of the gallstone is thus the principal point in the lithotripsy. In 37 of the 39 cases in which the stone was effectually crushed the symptoms of retention of bile ceased at once. When conditions are favorable, choledocholithotripsy is a simple, mild and effectual procedure. If the stone does not crumble easily between the fingers the attempt to crush it should be abandoned. This procedure should not be attempted unless the stone is single and of moderate size, the walls of the duct resistant, or in cases in which conditions are not promising for suitable drainage.

24. **Appendicitis and Typhoid Fever.**—Perrone describes 3 cases of appendicitis during or following typhoid fever, the pathologic anatomic findings demonstrating that the appendix is liable to be the seat of true typhoid lesions, and also that ordinary appendicitis is liable to develop in the course of or during convalescence from typhoid fever. Dieulafoy calls this latter form "paratyphoid appendicitis," and Perrone's experience indicates that it is much more frequent than generally supposed, and may run its course unrecognized. The prognosis of this form of appendicitis, if operated on in time, is far better than that of typhoid perforation. The serious condition of the patient is no contraindication to an operation, although in the severer cases local should be preferred to general anesthesia.

27. **Essential Fragility of the Bones.**—Broca describes the cases of two children. One had had six fractures and one seven, occurring from slight falls at various intervals; the bone healed readily and rapidly with perfect consolidation. Two other cases of this essential fragility of the bones are also related. The patients were sisters, about 20 years old. One had fractured her leg or arm ten times between the ages of 5 and 16, the other eleven times before she was 12. These two patients seem to have outgrown the tendency to fractures. They took calcium phosphate and cod liver oil systematically, with special regard to hygiene, and are now apparently in good health, although the shadows in radiography seem less dense than that of normal bone.

Beiträge z. klin. Chirurgie, von Bruns', Tübingen.

Last indexed, page 470.

29 (XLVI, No. 3.) Position of Foot in Disease of Ankle.—Ursachen und Bedeutung der Stellung des Fusses in Pro- oder Supination bei fungöser Erkrankung des unteren Sprunggelenkes. M. Hofmann.
30 Erfahrungen über Appendicitis am Krankenhauses Heilbronn. R. Haecker.
31 *Zur Statistik und Behandlung der Mamma-Carcinome. B. Schwarz (von Hacker's clinic, Graz).
32 *Ueber Nerven-Compression. E. H. van Lier (Lanz's clinic, Amsterdam).
33 Zur path. Anatomie des Carcinoma papillosum ventriculi. M. Matzuoka.
34 Die chirurgische Behandlung von der Appendicitis. F. Bode (Rehn's service, Frankfurt).
35 Die Behandlung der appendicitischen Abscesse. W. Noetzel (Ib.)
36 *Passive Congestion in Treatment of Acute Inflammations according to Experience to date at von Bruns' clinic.—Ueber die Stauungsbehandlung bei akuten Entzündungen. M. v. Brunn.
37 (Supplement.) Report for 1904 of Czerny's surgical clinic, Heidelberg.
38 (XLVII, No. 1.) Ueber teleangiektatische Granulome. H. Küttner.
39 Ueber die operative Behandlung der Nasenrachen-Tumoren (in nasopharynx). Custodis.
40 Unterbindung von grossen Venen-Stammen (ligation of trunk veins). E. E. Goldmann.
41 Zur Kenntnis der Heilung von Lungen-Wunden (healing of wounds in lung). L. Talke.
42 Zur Dauerheilung des Brustkrebses (permanent cure of mammary cancer). Steinthal.

31. **Experiences with Mammary Cancer.**—Summaries of the histories of 186 patients with mammary cancer operated on at von Hacker's clinic and followed to date are given, and various special points are emphasized. The total number of cases was 286. The proportion of married women (about 73 per cent.) is about that noted by other observers. Half the women had borne children, the average was four births. In only 4 cases was there a history of preceding mastitis in the breast affected, and in 1 of chronic eczema of the nipple. Trauma was blamed by the patients in nearly 10 per cent. of the cases. The lump had been first noticed at an average of nearly fifteen months before the operation, the intervals ranging from one month (10 cases) to one year (27 cases), and to ten years (1 case). Nineteen of the patients are still alive, in good health, and 4 died from an intercurrent disease after three years of health. Local recurrence was observed in 81 cases (43.54 per cent.) and 54 patients succumbed to metastasis (28.92 per cent.). In 27 cases recurrence was not observed until after an interval of from three to six and one-half years. There were nine tardy recurrences in each hundred cases of recurrence. The recurrence was operated on in 33 cases, the interval being from one month in one instance up to six and one-half years. Out of the 36 cases in which the supraclavicular glands were found already affected, 2 of the patients lived nearly four and five years, and 2 others are still alive, although 1 presents recurrence. Omitting these supraclavicular cases as practically inoperable, the proportion of permanent cures has been 25 in 150 cases (16.66 per cent.). The technic was that of Rotter and Halsted as a rule. Four patients succumbed to heart failure during or soon after the operation, 12 to pneumonia, 2 to marasmus, and 1 each to sepsis and erysipelas.

32. **Compression of a Nerve.**—Van Lier reports a case of median paralysis cured by an operation which removed a tumor pressing on the nerve. The case shows that a nerve trunk which had lost its conducting power by pressure from some connective-tissue formation or a callus, is able to regain it as soon as the pressure is removed. The patient was a man of 27 with median paralysis resulting from the pressure of an arterial hematoma which had developed after he had cut himself in the arm two weeks before the operation was undertaken. The nerve was found flattened to a ribbon by the pressure, but it gradually regained its function so that the motor function of the hand became normal. The sensory functions have not returned during the 2 years since. Van Lier reviews the various communications that have been published bearing on this subject of compression of the nerves, and describes some experiments with frogs.

36. **Passive Congestion in Acute Inflammations.**—Von Brunn reports the details of 65 cases of acute inflammations treated by Bier's method of passive congestion or congestive hyperemia. The verdict is very favorable on the whole, but as the method is so young he urges publication of the mishaps and failures with it as possibly liable to prove more instructive than the successes. He states that it is best to allow as wide a space as possible between the lesion and the constricting band, which Bier also emphasizes.

Berliner klinische Wochenschrift.

43 (XLIII, No. 5) *Das jodsaure Natrium und die Cerebrospinal-Meningitis. G. Edlefsen (Hamburg).
44 Masking of Grape Sugar and Glucosamin by Other Bodies in Suspension.—Verdeckung des Traubenzuckers und des Glukosamins durch andere in Lösung befindliche Körper. J. Lewinski.
45 *Ueber die radiologische Untersuchung des Magens im allgemeinen und ihre Verwertung für die Diagnose des beginnenden Carcinomes im besonderen (radiology of stomach in differentiating cancer). G. Holzknecht.
46 *Klinische Erfahrungen über Anämien. F. Rollin (Stettin).
47 Die Pubotomie. W. Stoeckel.

43. **Iodin in Treatment of Cerebrospinal Meningitis.**—Edlefsen advocates the use of iodic acid and its sodium salt (sodium iodate) rather than the halid salts of iodin in treatment of cerebrospinal meningitis and in all cases in which energetic action by iodin is desired. In his experience it prevented the development of serious sequels of meningitis. He supplements it by application of ice to the back of the neck as well as to the head, and he also gives potassium bromid in large doses to control the cramps and the tendency to vomit. Lumbar puncture and inunctions with silver salts are also useful adjuvants, he states. The sodium iodate, he declares, has also done good service in cases of chronic glandular enlargement.

45. **X-Ray Examination of the Stomach.**—Holzknecht is privat docent of medical radiology at Vienna and radiologic expert to the Austrian courts. In his *x*-ray work on the stomach he has come to the conclusion that the truly normal stomach is small and has the pylorus at the lowest point. He remarks that this is the way an engineer would build the stomach to perform its functions properly. Very few persons, however, have this normal type of stomach. The majority of mankind, even persons entirely free from any gastric disturbances, have distended, sagging stomachs with the pylorus some distance above the lowest outline of the stomach. They thus have a mild form of gastroptosis. Civilization has made man the controller of machines to do work instead of his doing the work himself. His muscles have lost their tonicity from lack of use, especially the muscles of the abdomen and intestines. The flabbiness of the muscles causes the intestines to sag, and this deprives the stomach of the cushion of intestines on which it normally rests. The stomach is thus compelled to sag too, but the pyloric region is fastened so that it cannot sag. The result is the bagging down of the lower part of the stomach. It is so common that the text books give it as the normal type. He then describes the important information that can be derived from fluoroscopy of the stomach after the patient has ingested a suspension of bismuth in water. The peristalsis can be seen and watched and deviations from normal detected. If the shadow is indented at some point, or if there is a gap anywhere, or the outline is like a picket fence at some part, it is easy to diagnose a tumor or other anomaly in the stomach wall. If the peristaltic waves stop at a certain point or if the movements are atypical, the information thus obtained is of great importance, especially the finding of insufficiency of the peristalsis in the antrum. It is sometimes easy to palpate a foreign body when its shadow can be seen, although palpation before was impossible. Another important finding is the discovery that a palpable tumor, supposed to be in the stomach, lies outside of the stomach shadow. In conclusion he refers to Sahli's desmoid test of the stomach functioning (mentioned in these columns on page 760). He calls attention to the possibility of erroneous conclusions from various eventualities that might arise with this test, but adds that they can be entirely avoided if the little bag is filled with bismuth, instead of a stain, and then watched with the fluoroscope. It is easy to note the exact moment when the little bag opens from the dissolving of the catgut with which it is tied, or the bag can be found, still tied up, in the small intestine.

46. **Anemia and Defective Gastric Juice.**—Rollin does not attempt to theorize but merely relates his clinical experience to the effect that in patients with insufficient or lacking secretion of gastric juice there was always evidence of anemia. In hyperacidity the hemoglobin was above normal, and in nervous dyspepsia it was practically normal. Only in the cases ranging from subacid gastritis to gastric achylia was anemia the constant finding. His experience further demonstrated that administration of natural gastric juice from the dog, supplying the missing element for gastric digestion, was followed by the subsidence of the anemia. The supplementary gastric juice insured proper nourishment for the elements of the blood.

Mitteilungen a. d. Grenzgebieten d. Med. u. Chirurgie, Jena.

Last indexed, page 312.

48 (XV, No. 5.) *Ueber lokale Anästhesie und über Sensibilität in Organ und Gewebe. K. G. Lennander (Upsala).
49 *Entstehung und Rückbildung traumatischer Aphasie. Pochhammer.
50 Gutachten über eine traumatische Verletzung des Conus terminalis. Adam Loeb.
51 *Ueber Leber-Abscesse (of liver). C. Goebel.
52 *Ueber die epidemische Natur der Perityphlitis und deren Beziehungen zu Influenza und anderen Infektions-Krankheiten. I. Rostowzew.
53 Zur Frage der Darm-Desinfektion (of intestines). A. Hoffmann.
54 *Zur Symptomatologie und Therapie der sich im Umkreis des Rückenmarks entwickelnden Neubildungen (neoplasms encroaching on spinal cord). H. Oppenheim.
55 Die Peritoneal-Nerven der vorderen und lateralen Bauchwand und des Diaphragma. M. Ramström (Upsala).
56 *Ueber Appendicitis larvata. Korach (Posen).
57 Zur pathologischen Anatomie der chronischen Appendicitis. S. Oberndorfer.
58 Vegetations-Bilder bei Magen-Darm-Erkrankungen (of stomach and intestines). R. Schmidt.

48. **Local Anesthesia in Regard to Sensibility of Organs and Tissues.**—Lennander has long made a study of the sensibility of the different tissues and organs, his conclusions having been duly chronicled in THE JOURNAL as they have appeared since 1901. He asserts that if the surgeon will only take the pains to induce proper local anesthesia it is possible to perform extensive operations with the minimum of the anesthetic and without pain or after effects from the drug. He relates a number of convincing examples from his own experience. He never surpasses the dose of 3 or 4 cg. of cocain, using it in a .125 or .25 or .5 per cent. solution, generally the first, adding two drops of 1 per thousand solution of adrenalin to each 10 c.c. of the cocain solution. He points out that whereas the skin possesses four kinds of sensibility, to pain, pressure, heat and cold, the muscles and aponeuroses have comparatively little sensibility. Inside the body all the serous and subserous coverings over the large cavities of the body and the coverings of the bones and joints possess the sense of pain. They probably have no sensibility for pressure, heat and cold, but pulling or stretching them, or pressing them against a hard substance beneath causes pain. On the other hand, the internal organs lack all kinds of sensibility. They are not sensitive to pain, pressure, heat nor cold. He regards this as a fully established fact in regard to the stomach, intestinal canal and gall bladder, and almost certain in the brain, the bone substance, cartilage, lungs, heart (according to several observa-

tions), the blood vessels when they are isolated from their surrounding connective tissue, the thyroid gland, liver, spleen, pancreas, parenchyma of the kidneys, the female internal genital organs and the serosa-enclosed parts of the testicles. It has hitherto been generally assumed that these internal organs possess little if any sensibility in health, but that they become highly sensitive in case of acute inflammation. Lennander, however, is convinced that the observations here related and his former experiences have shown that this assumption is incorrect. He thinks it is a wise economy that these internal organs are not burdened with sensibility, while their envelopes are extremely sensitive and are thus able to give warning of impending danger and the possibility of warding it off. Injurious influences affecting these internal organs from within could not be thrown off directly, and consequently it would be of no use for them to be subject to sensations of pain, pressure, heat and cold. None of the organs innervated by the sympathetic nerve below the branching of the recurrent nerve possesses any sensibility for pain, pressure, heat or cold. The consequence is that general anesthesia is not required for operations on tissues which are incapable of any sensation of pain. Among the numerous instructive examples cited is one which shows the complete lack of sensibility on the part of the gray and white substance of the brain to the thermocautery, to faradization and to various operative measures. The incision in the dura mater was not felt as pain. Another patient had no sensation of pain when the actual cautery was drawn along the side wall of the vagina. In the amputation of the leg of a medical student the incision under cocain-adrenalin anesthesia was painless down to the layers of the fascia, when a few whiffs of ether were given. The operation was concluded without general anesthesia as the bone substance and bone marrow were free from sensibility, and the local anesthesia of the soft parts from the injection of the cocain lasted until the operation was completed. No constriction was applied to the limb above. The Gritti amputation in this case was done on account of paralysis and atrophy resulting from poliomyelitis in infancy. The particulars of this expert observation are instructive. In conclusion Lennander comments on the fact that so long as a lesion developing in the spine does not encroach on the periosteum, it must develop without causing any local symptoms. When pain can be induced at the spot by pressing on the spinous process or on the head, this is a sign that the bone has been destroyed so that there is abnormal traction on ligaments and periosteum. Before this sign can be discovered evidence of the presence of the lesion might be elicited by bending and stretching the trunk and thus exerting traction which will be experienced as pain when the periosteum and ligaments have begun to be affected by toxins, although the process is not yet far enough advanced for pressure alone to elicit pain.

49. **Traumatic Aphasia.**—In the case described a circumscribed injury of the skull was followed by complete aphasia. Speech was gradually regained as the lesion healed. The report is illustrated and adds several points to our knowledge of traumatic disturbances of the speech center.

51. **Liver Abscess.**—Goebel's article is a study of tropical liver abscess based on 23 cases observed in Egypt. He declares that exploratory puncture is indispensable. In operating he prefers local anesthesia. The lesion should be opened up wide, and for this purpose he advises resection of about 6 cm. of one or two ribs. He cites some instances from his experience to show the disadvantages and danger of too small incisions and inadequate intervention. The dressings should be changed often and the cavity rinsed with salt or boric acid solution. The liver has a tendency to slide upward when its size is reduced. For this reason it is wise to resect a rib above the lesion. In some cases he had to make a secondary resection of a rib above on this account. He sometimes wipes out the walls of the cavity with 10 per cent. solution of silver nitrate. Only 2 of the 23 patients on whom he operated were women. He could not detect that race, malaria, or entozoa had any influence on the occurrence of suppuration in the liver. The abscesses perforated into the lungs or bronchi in a number of cases, requiring plastic operations, and the abscesses were frequently multiple. Chloroform should be avoided on account of the accompanying tendency to fatty degeneration of the liver.

52. **Discussion of the Epidemic Nature of Appendicitis.**—Rostowzew analyzes a bibliography of 117 references and extensive personal experience to prove that appendicitis is not an epidemic affection and that no connection between it and epidemics of influenza is discoverable.

54. **Tumors Encroaching on Spinal Cord.**—Oppenheim gives an illustration of five tumors developing on the inner aspect of the spinal dura which he successfully removed in the five cases. The tumors are all of about the same size, round or ovoid in shape. All were diagnosed during life and the exact location determined, with one exception, in which it was located too high. The specimen from a sixth similar case is not included in the illustration. One of the patients has been cured for nearly four years, another for several months to date, another was relieved of all symptoms for a number of months, but the other patients succumbed in a few days or weeks after the operation. If infection could have been prevented, 2 of the latter would probably have been cured like the first patient. He is convinced that the chances of operative treatment are much better for tumors of the spinal membranes than for brain tumors, but the indications must be carefully observed. In a recent case he advised against operating as the diagnosis of the exact location of the tumor was uncertain. Another surgeon performed the operation, which gave no results and was fatal. The details of 8 cases are given. In one the symptoms had been those of a growth encroaching on the spinal cord in the lower dorsal region. It was an extravertebral, malignant neoplasm developing from the seventh rib; it had destroyed the vertebræ and made its way into the spinal canal. The preceding stage of neuralgia was probably due to compression of the intercostal nerves. Roentgen examination during the neuralgic stage would have revealed the extravertebral growth, but the patient was not seen until this stage had passed, and the symptomatology later was then merely that of the ordinary benign, intradural tumor. It has been his experience in several instances that these malignant tumors originating in the vicinity of the spine first make their presence manifest when they begin to encroach on the spinal roots and cord. The results of partial removal of the tumor were surprisingly good. The previously decrepit, paralyzed man was able to walk without a cane and to visit his place of business; this improvement persisted for four months. In a second, similar case, the growth was totally removed and the patient is still in good health, eight years afterward. This patient was a woman of 27 who had noticed for four years a lump in her neck, apparently originating in the fourth or fifth cervical vertebra, and becoming increasingly painful. During the last year there was paresis of the arm and leg on that side and numbness in the other leg. The muscles in the region of the cervical plexus were atrophied, and the response to electric tests was abnormal. The tumor proved to be a spindle-shaped enlargement of a nerve root, and it extended into the spinal canal. As the tumor was seen to be a sarcoma the surgeon (Bardeleben) regarded it as inoperable, and dismissed the patient. A surgeon in her home town later removed the growth, permanently curing all the pains and tendency to paralysis, although a briefly transient mental disturbance followed the radical operation. Oppenheim urges those who have published cases of successful removal of malignant tumors of this kind to report on the ultimate outcome. The differential points in the symptomatology of Oppenheim's various cases are reviewed and discussed in detail.

56. **Appendicitis Larvata.**—Korach applies this term to a form of chronic appendicitis which belongs in the category of chronically recurring rather than that of chronic residual appendicitis. He reports 5 cases and describes masked appendicitis as a combination of two factors, namely, a chronic affection of the appendix and a neurosis affecting the viscera. The neurosis usually is the result of hysteria or hystero-neurasthenia. Treatment which cures one of the factors alone but allows the other to persist, is inevitably ineffectual or is liable to aggravate the persisting factor. He classes this form of appendicitis in the group of the hard-to-cure myxoneuroses, which includes bronchial asthma and mucous colitis.

Monatsschrift f. Geb. u. Gynäkologie, Berlin.

Last indexed, page 165.

59 (XXII, No. 2.) Transposition of Large Parts of the Body by Constriction from Amniotic Bands.—Wahre und scheinbarer Transposition grösserer Körperteile nach Abschnurung durch amniotische Stränge. F. Ahlfeld.
60 Zur Physiologie der Neonatorum. F. Landois.
61 Zur Kenntniss der Adenomyome des weiblichen Genital-Apparates. H. B. Semmelink and R. J. de Jong.
62 Fall von vaginaler Ovariotomie (Dermoidcyste) intrapartum. F. Geisthoevel.
63 (No. 3.) *Die antizipierte Klimax und ihre nächsten Folgen für den Organismus. E. Pollak.
64 Zur Kenntnis der Cysten des kleinen Labium. A. Marx.
65 Zur decidualen Reaktion der Cervix. F. Hohmeier.
66 Zur Methodik der Sterilisation der Frau. A. E. Neumann.
67 Sollen wir die Neimplantation des Ureters intra- oder extraperitoneal vornehmen? K. Lichtenauer.
68 *Zur abdominalen Ureter-Implantation. P. Rissmann.
69 (No. 4.) Repeated and Twin Tubal Pregnancy.—Wiederholte und Extrauterinschwangerschaft in ein und derselbe Tube; Zwillinge. P. Michin.
70 Fall von Gravidität bei Uterus bicornis duplex. H. Peham.
71 *Ueber Dammnaht (suture of perineum). O. Baumm.
72 Erfahrungen über Spinal-Analgesie mit Tropakokain. H. Völker.
73 *Fall von intrauterin acquirierter Pneumonie. K. Bochenski and M. Gröbel.
74 Struma ovarii. K. Ulesko-Stroganowa.
75 *Metastases in Brain from Uterine Carcinoma.—Hirnmetastasen nach Uteruscarzinom. Offergeld.
76 *Remote Results After Ovariotomy, especially in case of anatomically dubious tumors.—Dauererfolge der Ovariotomie. Polano.

63. **Results of the Prematurely Induced Menopause.**—Pollak ascribes to imperfect oxidation of fat the morbid phenomena observed after the anticipated climax. The lack of the internal secretion of the ovary causes a reduction in the oxidation of fat. The unoxidized fat accumulates and overwhelms the parenchymatous organs and also the heart. It is deposited in the muscle fibrils in the heart, interfering with their physiologic function as long as it remains there. These, at least, are the conclusions justified by his extensive experimental research and study of the subject in the clinic and in the literature. The disturbances of the premature menopause, consequently, he thinks, may be regarded as the results of this temporary over-accumulation of fat in the organism.

68. **Abdominal Implantation of Ureter.**—Rissmann believes that a ureteral fistula of long standing is generally accompanied by such changes in the parts that nephrectomy is the best treatment. In case the ureter is to be implanted, he advises cutting the end very slanting. It is then implanted as usual in the wall, and the long pointed tip is drawn up inside and sutured to the wall of the bladder, a short distance from the implantation. This allows the ureter to be firmly sutured without necessity for stitches in the part still serving to carry the urine. Sutures in this part are liable to cause suppuration and to drop through into the lumen, or the stitches may be taken too deep. In either event stenosis of the ureter is liable to follow, all of which is avoided by suturing merely the long sloping end below the point where the intact ureter passes through the bladder wall. The article is illustrated.

71. **Suture of Perineum.**—Baumm uses a large curved needle and passes it entirely around, outside of the laceration, never allowing it to make its appearance in the wound. The suture thread thus introduced is tied just below the lower end of the laceration. The effect is that the tear is made smaller, all the parts having been compressed together by the thread as it is drawn up and tied. Another thread is then passed around the gap still left, and tied in the same way, and still another after this. The illustrations readily show how these three concentric threads gradually reduce the size of the laceration without leaving a chance for any recesses to form. The small gap then left is sutured like any wound. The walls of the tear in the vagina are brought so close together that they do not require suturing. In case the perineal laceration has included the anus, he first passes a thread entirely around the laceration in the sphincter and anus, inserting the needle at one end of the broken ring formed by the torn anus, and bringing it out at the other end of the ring. When the thread thus inserted is tied, the rest of the laceration is treated as above described.

73. **Intrauterine Pneumonia.**—A woman presented evidences of croupous pneumonia during the last days of pregnancy and gave birth to a male child exhibiting cyanosis and dyspnea with findings in the lungs typical of pneumonia. The child died in eleven hours and the pneumococcus was cultivated from the lung tissue. It was not discovered elsewhere in the child's organs.

75. **Metastasis in Brain of Uterine Carcinoma.**—The tumor in this case was in the left temporal lobe, and was accompanied by much edema and evidences of cerebral hemiplegia. In a second case there was metastatic endocarditis, but no brain findings, although the diffuse carcinomatous endocarditis might have favored the spread of cancer elements to the brain.

76. **Treatment of Ovarian Tumors in General.**—Polano has been studying the latest statistics of various operators in regard to the ultimate results of operations for ovarian tumors. They suggest that women with tumors in the ovaries, even apparently innocent ones, seem to display a tendency to tumor formation in other organs. In case of malignant disease in extragenital organs, the ovaries seem to be the favorite site for metastatic affections. The symptoms emanating from the ovaries in such a case may easily mask those of the primary growth. He is convinced that when it is necessary to operate on an ovarian tumor of a malignant or dubious nature, it is wise to remove the uterus with both ovaries. In case of a bilateral ovarian tumor this should always be done, unless metastases in the peritoneum contraindicate further intervention. Extirpation of the primary tumor and of the cancerous ovaries at the same time may be followed by long survival. In von Franqué's case the patient lived six months after resection of the stomach and ovariotomy in one sitting. If one ovary seems sound he advises leaving it as the removal of the sound second ovary is liable in some cases to impair the general health very much. The danger of involvement of the sound organ is actually not so great as is generally supposed. It can be left in place without concern if it be re-examined from time to time. The majority of European operators seem to prefer the vaginal route in operating on these patients. von Ott of St. Petersburg has a record of more than 2,000 vaginal ovariotomies. Polano's conclusions are based mainly on the reports and discussions at the German Congress of Gynecology last year. The ultimate results were better in cases of sarcoma than of carcinoma, and poorest in cases of papilloma.

Therapeutische Monatshefte, Berlin.

Last indexed XLIV, page 132.

77 (XIX, No. 1.) Agglutination Test with Dead Typhoid Bacilli.—Anwendung abgetöteter Typhus-Bazillen zur Ausführung der Gruber-Widalschen Reaktion. G. Klein.
78 Ueber tonisierende Weinpräparate (tonic wines). O. Liebreich.
79 Ueber Methylen-Hippur-Säure (acid). A. Nicolaier.
80 Leysin Sanatorium.—Behandlung der Tuberculose in den sanatorien von Leysin. Morin.
81 *Veronal. Kress.
82 Zur Frage der Zellmast. W. N. Clemm.
83 Chemical Reaction in Intestinal Canal and Its Therapeutic Significance.—Chemische Reaktion im Darmkanale und ihre therap. Verwendbarkeit. J. Goldschmidt.
84 (No. 2.) *Atropin-Anwendung in der Gynäkologie. Drenkhahn.
85 Behandlung schwerer blutiger Hand—Verletzungen (serious injuries of hand). G. W. Schiele.
86 Indikationen für Kefir-Gebrauch. A. Hirsch (Riga).
87 Erfahrungen der Landpraxis mit Veronal. F. Prölss.
88 Zur operativen Eroffnung der Mittelohrräume (to open up middle ear). Klau. (Concluded.)
89 (No. 3.) Aetiologie der Tabes. O. Rosenbach.
90 Das Gesetz des osmotischen Gleichgewichts im Organismus (law of osmotic balance). H. Koeppe.
91 Meat Eating Among the Masses.—Erhält unser Volk genug Fleisch? F. Goldstein. Id. F. Joklik.

81. **Veronal Poisoning.**—Kress reports symptoms of intoxication in 3 out of 12 neurasthenic patients to whom he had been giving veronal. The dose was .5 gm. veronal on retiring. A cumulative action was apparent by the third or fourth day. Extreme somnolence, inability to get up out of bed, or to take proper food were the main symptoms.

84. **Atropin in Gynecology.**—Drenkhahn expresses surprise that greater use is not made in gynecology of the power of atropin to relax the muscles and to hold them relaxed. Puerperal fever is a wound infection of the uterus, and if the organ can be kept still the infection remains localized and soon heals. Atropin, he thinks, is an ideal drug for this purpose of holding the uterus still. He thinks that the contractions of the uterus entail toxemia and bacteriemia from this source. Even in case other organs are already affected the atropin

is useful as it checks the absorption of toxic substances from the surface of the puerperal uterus. He relates a few examples from his experiences to show the benefit from atropin in not too far advanced puerperal fever. The only by-effect noted besides the disturbance in accommodation, was the occasional paralysis of the bladder. Catheterization should not be deferred too long. The patients do not perceive that the bladder is distended. The dosage recommended by Drenkhahn is from 12 drops of a 1 per thousand solution of atropin three times a day, to 20 drops every six hours. He kept this up in the case he describes in detail for nine days, giving a total of .06 gm. of atropin, that is, about .006 gm. a day, fully twice the maximum dose. Although the puerperal fever was severe the patient recovered in two weeks without other treatment.

Virchow's Archiv, Berlin.

Last indexed, page 693.

92 (CLXXXII, No. 1.) Ueber diffuse Myokarditis. S. Saltykow.
93 Zur Pathogenese der gonorrhoischen Epididymitis. M. Oppenheim and O. Löw.
94 Congenitale Atresie des Kehlkopfes (of larynx). O. Frankenberger.
95 Zur Pathologie gutartiger Tonsillar-Tumoren. E. Glas.
96 Zur Kenntnis der Cystadenome des Pankreas. L. Edling.
97 Ueber Gallertkrebs der Harnblase (colloid carcinoma of bladder). L. Rauenbusch.
98 Weitere Untersuchungen über Oxyuris vermicularis in der Darmwand des Menschen (in intestinal walls). O. Wagener.
99 Development of Elastic Fibers and Their Relation to Tissue Function.—Entwickung der elastischen Fasern im Organismus und ihre Beziehungen zu der Gewebsfunktion. M. Nakal.
100 (No. 2.) Ueber das Aneurysma des rechten Sinus Valsalvæ der Aorta und seine Beziehungen zum oberen Ventrikel-Septum. K. Hart.
101 Phlebitis migrans (non syphilitica). G. Schwarz.
102 Pinguicula.—Der Lidspaltenfleck und sein Hyalin. S. Fuss.
103 Hypophysis-Tuberkulose bei einer Zwergin (in a dwarf). C. Hueter.
104 Riesen-Leber-Zellen bei angeborener Syphilis (giant liver cells). R. Oppenheimer.
105 Ueber die erste Entstehung von Leber-Abscessen durch retrograde Embolie. W. Risel.
106 Doppelseitiges Nieren-Sarkom mit chrom-affinen Cell-Nestern. B. de Vecchi.
107 *Experimenteller Beitrag zur Erkenntnis der bei Nephritis auftretenden Hypertrophie des linken Herzens (of left heart). M. Katzenstein.
108 Ueber Nieren-Amyloidose (of kidneys). H. Raubitschek.
109 Ueber den Fettgehalt der Nebenniere (fat in suprarenals). O. Napp.
110 (No. 3.) *Paraffin-Injektionen in menschliche Gewebe. I. Kirschner.
111 Hyalin-ähnliche collagene Kugeln als Produkte epithelialer Zellen in malignen Strumen. R. Zipkin.
112 Der Greisenbogen (arcus senilis). S. Fuss.
113 4 Fälle von pathologischer Blutbildung bei Kindern (blood affection in children). G. Swart.
114 Injuries of Kidneys and Intestines in Sublimate Poisoning of Rabbits.—Die Nieren und Darmveränderungen bei der Sublimatvergiftung des Kaninchens in ihrer Abhängigkeit vom Gefäss-Nerven-System. Elbe.
115 Ueber eine Entwicklungsstörung im Kleinhirn in einem Fall von Spina bifida lumbosacralis (defect in cerebellum). M. Fredig.
116 Origin of Cavities in Spinal Cord.—Zur Lehre von der Entstehung von Höhlen im Rückenmark und über symptomlose Hydromyelie. A. Bittorf.

107. **Hypertrophy of Heart in Nephritis.**—Katzenstein found that the blood pressure was not raised in his experiments on dogs and rabbits when the renal artery or pedicle of the kidney was ligated. In some instances the pressure was lowered. On the other hand the pressure was decidedly increased when the kidney was not tied off but was left in communication with the general circulation, although with some obstruction to the normal circulation through the kidneys. When the pedicle was only slightly twisted or when a ligature was applied very loosely to the renal artery, the result of this obstruction to the circulation was a decided increase in the blood pressure, persisting for hours. He does not attempt to explain this remarkable difference in the results when the circulation through the kidneys was merely obstructed or cut off altogether.

110. **Histologic Study of Paraffin Injections.**—Kirschner's researches demonstrate that paraffin injected into the tissues is not absorbed like catgut, nor does it become encapsulated, like a bullet. Connective tissue grows into and through both the soft and hard paraffin with the ultimate absorption of the introduced foreign body. A number of examples are related. The organization of the paraffin proceeded with much more rapidity in some patients than in others, probably from the varying pressure on the tissues in the different cases.

Archivio per le Scienze Mediche, Turin.

Last indexed XLV, page 1286.

117 (XXIX, No. 4.) Ricerche sopra un bacillo del gruppo *B. Pseudotuberculosis* (R. Pfeiffer). C. Sacerdotti.
118 Sulla particolare struttura di alcuni grossi leucociti monocleati della cavia, colorati a fresco (structure of guinea-pig's leucocytes). A. Cesaris-Demel.
119 Tumori della sella turcica. U. Parodi.
120 Intorno a qualche proprieta del siero anticarbonchioso Sclavo (certain properties of antianthrax serum). E. Cler.
121 Flebite produttiva della Vena cava e delle Vene sovreepatiche con cirrosi del fegato (of liver). F. Vanzetti.
122 Transplantation of Salivary Glands.—Sul traplanto delle ghiandole salivari mucose. V. Marzocchi and E. Bizzozero.
123 Legatura del dotto di Wharton nel cane (in the dog). Id.
124 Produzione di una tossina tifica solubile (soluble typhoid toxin). G. Moreschi.
125 (No. 5.) Sul comportamento delle cartilagini nelle ferite (behavior of cartilage in wounds). G. Fasoli.
126 Contributo allo studio delle terminazioni nervose nei muscoli striati dj "Ammocoetes branchialis." R. Fusari.
127 Sul potere dj rigenerazione dei tessuti paratiroideo. L. Fiori.
128 Ulteriori osservazioni sul processo infiammatorio delle membrane sierose. R. Vigliani.
129 Sui fenomeni di agglutinazione dei batteri. G. De Rossi.

Riforma Medica, Naples.

Last indexed, page 314.

130 (XXI, No. 35.) *Del riconoscimento degli albumosoidi urinarii. E. U. Fittipaldi.
131 Occlusione intestinale da diverticolo di Meckel. L. Bobbio.
132 *Dello intervento nelle ferite penetranti del torace (stab wounds of thorax). F. Gangitano.
133 Mal Perforans Cured by Nerve Stretching.—Male perforante del piede guarito collo stiramento del nervo plantare interno. A. Gernezzi.
134 Considerazioni cliniche ed anatomo-patologiche a proposito di un caso di morbo di Recklinghausen (multiple neurofibromata). G. Monzardo.
135 (No. 36.) Experimental Study of Influence of Ligature of Jugular on Success of Ligature of Arteries in Neck.—Influenza dell allacciatura delle giugulari sugli esiti della legatura dei grossi tronchi arteriosi del collo. P. Fiori.
136 *Conseguenze e cura del rene mobile (movable kidney). D. Biondi.
137 *Studio di alcune quistioni relativa alla rabbia (rabies). C. Fermi.
138 Caso di myxedema congenito. A. B. Gianasso.
139 (No. 37.) Sui tumori primitivi delle borse sierosi (bursæ).
140 *Effect on Kidneys, Pulse and Blood Pressure of Bandaging the Legs.—Effetti prodotti dalla fasciatura espulsive degli arti inferiori sulla secrezione dell' urina, etc. A. Plessi.
141 Caso di sclerosi del pancreas. E. de Magistris.
142 Paralisi facciale periferica da tumore. A. Salerni.
143 *Siero antidifterica ed erisipela. C. Mastri.
144 (No. 38.) Chimismo urinario in 2 infermi operati di gastro-enterostomia. B. Menotti.
145 Action of Caffein on Pulse Tension.—L'azione della caffeina sulla pressione del polso. G. C. Mirano.
146 (No. 39.) Studio dei rumori musicali (fenomeno del Capozzi). M. Landolfi.
147 *La gastroptyxi nella dilatazione dello stomaco. A. Laffranchi (Brescia).
148 (No. 40.) L'ubicazione del parassita malarico (location). C. Serra.
149 Contributo alla resezione intestinale primaria nelle ernie gangrenate con suppurazione perierniaria. M. Dardanelli. (Concluded.)
150 *Contributo clinico all' uso del siero antitetanico a scopo preventivo e curativo. M. Pergola.
151 Sulla gastro-enteroplegia post-operatoria. E. Cartolari.
152 Degli edemi preascitici nella cirrosi epatica. T. Silvestri.

130. **Determination in Urine of Bodies Resembling Albumoses.**—Fittipaldi adds 5 drops of a saturated solution of trichloracetic acid to 5 c.c. of urine and heats to boiling, then sets aside for five or six hours. The precipitate may contain albumin alone or mixed with nucleoalbumin, or albumosoids may be present. To determine the presence of the latter the supernatant fluid is decanted, filtered and treated with mercuric iodid and potassium. If the fluid becomes turbid this is due to the presence of albumosoids unless it can be explained by the presence of an alkaloid (quinin). The precipitate is suspended in alcohol and centrifugated. The alcohol is then expelled and the precipitate is dissolved with the minimum of caustic soda at 31 to 32 per cent. In another test tube a mixture of 0.5 c.c. of a 5 per cent. solution of nickel sulphate with the same amount of ammonia is shaken up and poured out. The alkaline solution of the precipitate is then poured into the same tube. If it contains albumosoids the fluid turns an orange tint. To make the test still more exact 25 c.c. of urine can be precipitated with six times the amount of absolute alcohol. The alcohol is then decanted and the precipitate is examined as above. With this technic all the proteid substances are retained in the precipitate and the test is more exact.

132. **Operative Treatment of Stab Wounds of the Thorax.**—Gangitano discusses 3 personally observed cases of stab wounds of the chest, and such injuries in general. His conclusions

are all in favor of prompt surgical intervention. It is the only means, he thinks, of locating the cause of the hemorrhage and of checking it. Wide opening up of the chest is not such a dangerous procedure, he is convinced, as is generally assumed. It should be done with greater confidence and not merely as a last resort. It is an easy matter to suture a stab wound of the lung, and this effectually arrests the hemorrhage.

136. **Fixation of Kidney.**—Biondi has had occasion to perform nephropexy in 45 cases, and early became convinced that the various technics proposed to date have each some serious disadvantage. He devised a method which he has successfully applied in a number of cases and commends as being entirely harmless, fastening the kidney securely and permanently, while not injuring the renal tissue. He removes the fatty and fibrous capsule of the kidney, and then holds the organ in its place by packing with a long strip of gauze. The gauze is packed to fill all the space in front of and below the kidney. He first passes a strip of gauze around the lower pole of the kidney; an assistant pulling on the ends of this strip of gauze raises and holds the kidney in place. He then sutures the end of the long strip of gauze to the center of this first loop of gauze, and the rest of the long strip is packed in place, filling the space in front of the kidney with zigzag folds and then the space below the lower pole, bringing the end of the strip out through the lower angle of the incision. The two ends of the first loop of gauze are brought out through the upper angle of the incision. The most energetic tamponing never produced any disturbance in the kidney or adjacent organs. After eight or ten days he commences to withdraw the gauze, a little at a time, and the kidney is invariably found firmly fastened in its place. No disturbance with function has ever been noted, not even in two women who were treated by this technic, both kidneys being thus fastened in place in a single sitting. The results were equally good in the case of a male patient whose left kidney had been fastened in place in this way. One month later the right kidney had to be removed, six months after nephrotomy had been done on this kidney for calculi. In numerous experiments on dogs he found the results equally satisfactory when one kidney was removed and the other packed in place in this way with the tampon. The new formation of connective tissue was not very extensive; it did not invade the tissue of the gland, and caused neither anatomic nor functional disturbances. The adhesions holding the kidney in place were evident by the fourth day, and reached their maximum by the twentieth day. After this the adhesions loosened up a little, which allowed the kidney its physiologic excursions with the movements of the diaphragm, as in normal conditions.

137. **Experimental Study of Rabies.**—Fermi remarks that the rabbit, guinea-pig, dog and cat are almost totally insensible to hypodermic injection of fixed rabies virus, but that rats are especially susceptible. He describes numerous experiments undertaken to solve various problems of treatment of hydrophobia. In his attempts to produce a Pasteur vaccine that will keep indefinitely he found that a number of mercury and silver salts were able to keep the emulsion sterile in his tests, as also 1 per cent. carbolic acid and 1 per cent. malachite green.

140. **Effect on Heart and Kidneys of Bandaging the Legs.**—Plessi has been making a number of tests of healthy persons and of those with other than vascular affections to determine the effect of blood-expelling bandaging of the legs. The subjects were kept in bed twenty-four hours and the pulse, blood pressure and urinary findings recorded. Then later they stayed in bed for another twenty-four hours or longer after a bandage had been wound around each leg from the sole to the groin. Comparison of the findings showed a remarkable effect on the kidney functioning. The amount of urine increased from 50 to 100 per cent. or more. The specific gravity of the urine, the pulse and the blood pressure did not show any appreciable difference, although the elimination of chlorids was increased. The bandages were tolerated without any disturbance by healthy subjects, but they had to be removed in six and seven hours in the case of one patient with mitral stenosis and of another with polyserositis, on account of the development of precordial oppression and palpitation. Even in this brief space of time the diuresis was considerably augmented in each case. This effect is probaly the result of the active hyperemia in the kidneys.

143. **Antidiphtheria Serum in Erysipelas.**—Mastri reports from Rome 3 cases of erysipelas which seemed to be cut short or very favorably influenced by two injections of antidiphtheria serum. He injected 500 units in children and 1,000 in a man of 60 and a woman of 35, repeating the injections twice in the course of one or two days.

147. **Gastroptyxy.**—Laffranchi has coined this term from the Greek to apply to an operation by which the stomach is made smaller by a series of threads passed nearly parallel through its outer coat from the upper to the lower margin of the organ on the anterior aspect. Drawing up the threads makes the organ smaller. Instead of "taking up a tuck" as by the usual technic for such operations, the organ is "shirred." This technic interferes less with the tonicity and peristalsis of the stomach, while it leaves the pylorus intact. The outcome was extremely satisfactory in the case of a man of 30 whose chronically dilated stomach extended four fingerbreadths below the umbilicus.

150. **Preventive and Curative Use of Antitetanus Serum.**—Pergola relates experiences with 30 patients who were given prophylactic injections of antitetanus serum, and also with 2 patients already presenting evidences of tetanus. He states that the action of the serum is especially pronounced when the disease runs a protracted course. He found that the prognosis was more favorable the longer the period of incubation. The intracerebral or intravenous use of the serum did not appear to have any advantages over the subcutaneous route. In conclusion he adds that between 1887 and 1902 an average of 750 persons died annually of tetanus in Italy. In the last few years it has become much less frequent, and in his annual material of about 1,800 patients he has not encountered a case except the two mentioned above with tetanus already under way when first seen.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

SELF-PROPELLED VEHICLES. A Practical Treatise on the Theory, Construction, Operation, Care and Management of all Forms of Automobiles. By J. E. Homans, A.M., with Upward of 500 Illustrations and Diagrams, Giving the Essential Details of Construction and Many Important Points on the Successful Operation of the Various Types of Motor Carriages Driven by Steam, Gasoline and Electricity. Cloth. Pp. 652. Price, $2.00. New York: Theo. Audel & Co. 1905-1906.

CASE TEACHING IN MEDICINE. A Series of Graduated Exercises in the Differential Diagnosis, Prognosis and Treatment of Actual Cases of Disease. By R. C. Cabot, A.M., M.D., Instructor in Medicine in the Harvard Medical School and Physician to Outpatients at the Massachusetts General Hospital. Cloth. Pp. 214. Price, $1.50. Boston: D. C. Heath & Co. 1906.

RECENT ADVANCES IN PHYSIOLOGY AND BIO-CHEMISTRY. Edited by Leonard Hill, M.B., F.R.S. Contributors, B. Moore, M.A., D.Sc., J. J. R. Macleod, M.B., L. Hill, M.B., F.R.S., M. S. Pembrey, M.A., M.D., and A. P. Beddard, M.A., M.D., with Diagrams. Cloth. Pp. 740. Price, $5.00 net. New York: Longmans, Green & Co. 1906.

PROFESSIONAL EDUCATION, with Special Reference to Medicine. An Address Delivered at King's College, London, on Oct. 3, 1905. By T. C. Allbutt, M.A., M.D., F.R.S., Regius Professor of Physic in the University of Cambridge. Cloth. Pp. 80. Price, 75 cents. New York: The MacMillan Co. 1906.

PHARMACOLOGY AND THERAPEUTICS. By R. W. Wilcox, M.A., M.D., LL.D. Sixth Edition. Based on the Fifth Edition of White and Wilcox's "Materia Medica and Therapeutics." Cloth. Pp. 1010. Price, $3.50. Philadelphia: P. Blakiston's Son & Co. 1905.

CHEMISTRY OF THE PROTEIDS. By G. Mann, M.D., B.Sc., University Demonstrator of Physiology, Oxford. Based on Prof. Otto Cohnheim's "Chemie der Eiweisskörper." Cloth. Pp. 606. Price, $3.25. New York: The MacMillan Co. 1906.

DIE NIERENLEIDEN, ihre Ursachen und Bekämpfung. Gemeinverständliche Darstellung von Dr. H. Engel, Kurarzt in Helwan (Aegypten). Mit einer Abbildung im Text. Paper. Pp. 80. Munich: Verlag der Aerztlichen Rundschau. 1906.

RADIUM UND RADIOAKTIVITÄET von Dr. med. Ernst Sommer, Spezialarzt für physikalische Therapie, Winterthur (Schweiz) Mit einer Abbildung im Text. Paper. Pp. 52. Munich: Verlag der Aerztlichen Rundschau. 1906.

THE FIFTH ANNUAL REPORT OF THE TRUSTEES OF ST. LUKE'S HOSPITAL for the Year Ending Dec. 31, 1905. Spokane. Paper. Pp. 28.